RESTRICTED

UNITED STATES PACIFIC FLEET
AND PACIFIC OCEAN AREAS

JAPANESE ARTILLERY WEAPONS

CINCPAC - CINCPOA
BULLETIN NO. 152 - 45
1 JULY 1945

CINCPAC-CINCPOA BULLETIN 152-45 1 JULY 1945

Japanese Artillery Weapons

Foreword

This publication is a summary of the characteristics an recognition features of all Japanese artillery weapons for which information is available. Some weapons are not included because information regarding them is extremely limited and has not been substantiated.

Information has been compiled from various sources and includes only pertinent data. Detailed information on specific weapons will be furnished on request. Corrections and additions will be made from time to time, and recipients are invited to forward additional data to the Joint Intelligence Center, Pacific Ocean Areas.

Additional copies are available on request.

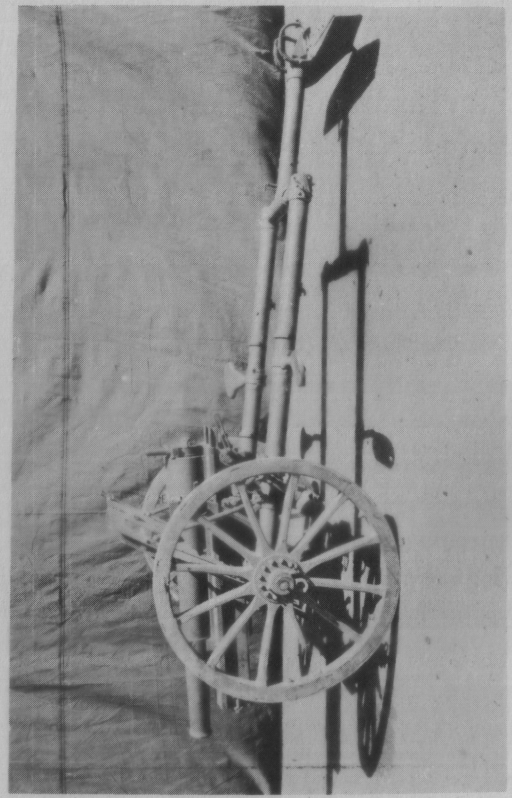
This supersedes CINCPAC-CINCPOA Bulletin 26-45.

RESTRICTED.

TABLE OF CONTENTS

JAPANESE ARTILLERY WEAPONS. RESTRICTED.
CINCPAC-CINCPOA BULLETIN 152-45. 1 JULY 1945.

TABLE OF CONTENTS (CONT'D.)



TYPE 41 75 MM MOUNTAIN GUN

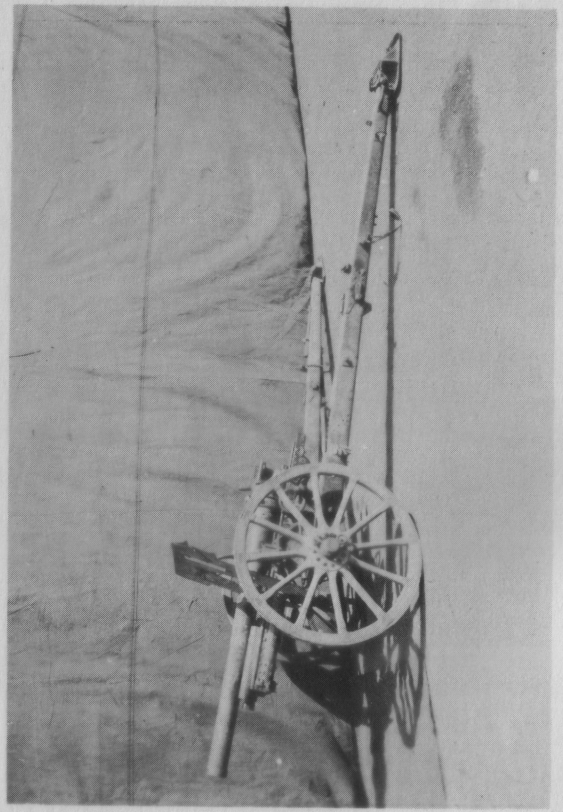
75 MM MOUNTAIN GUN TYPE 41 (1948)

The Type 41 is used almost exclusively as an infantry support weapon; however it was designed as a pack artillery piece and is sometimes found in pack or mountain artillery units. Although the gun is not modern in design and is crude in appearance it has been used quite effectively by the Japs and at times captured guns have been utilized by our own forces. In firing tests it has been found to be easily handled and steady in firing. One man can operate the gun. Sighting, orientation, and firing may be conducted in the same manner as with U. S. Artillery.

The gun may be quickly broken down into six loads for pack animals. Each load weighs approximately 200 pounds.

Characteristics

Caliber	75 mm (2.95 in.)
Length of bore	54.4 in.
Length (overall)	14 ft.
Length overall in trav.pos.	138 in.
Weight (firing position)	1,218 lbs.
Width (overall)	48 in.
Width of trail box	24 in.
Muzzle velocity	1250 ft/sec.
Max. Range	7,675 yds.
Rate of fire	10 rds/min.
Elevation	40 degrees
Depression	5 degrees
Traverse	5 degrees
Type of breechblock	Interrupted thread
Recoil system	Hydro-spring
Trail	Box type
Ammunition	APHE, HE, Hollow Charge Long pointed HE.



TYPE 94 75 MM MOUNTAIN GUN

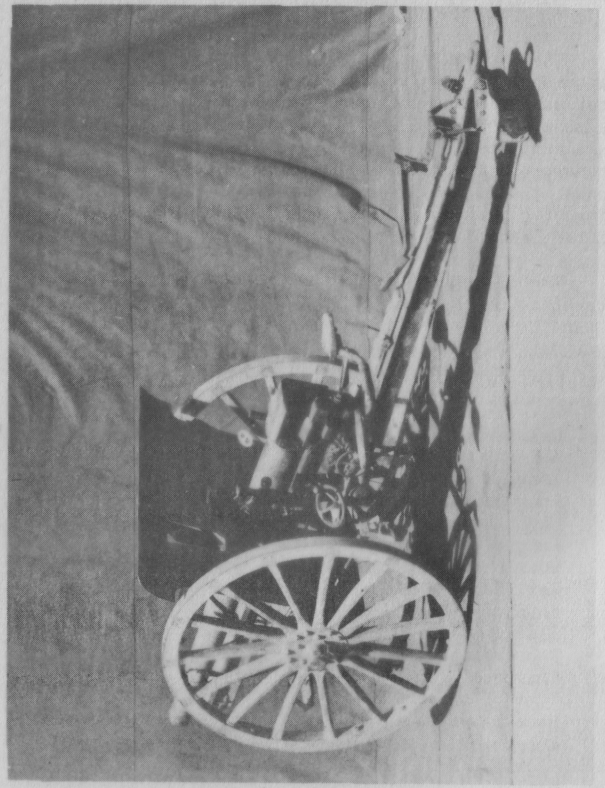
75 MM MOUNTAIN GUN TYPE 94 (1934)

The Type 94 Mountain Gun was designed as a replacement for the Type 41, and has become standard in most mountain and pack artillery units. The gun itself is modern in design, but is mounted on wooden wheels. This indicates that it cannot be used with rapid motor transport. It can be broken down into eleven pack loads, the heaviest weighing about 215 pounds. Elevating, traversing, and sighting mechanisms are located at the left of the breech.

It has been reported that a later model of this weapon is being manufactured. The main difference between the two models, both of which are known as the Type 94, is that the elevating hand wheel and its mechanism are operated from the right side of the new model.

Characteristics

Caliber	75 mm (2.95 in.)
Weight (overall)	1183 lbs.
Length (traveling position)	12 ft. 9 in.
Length (firing position)	13 ft.
Width (overall)	4 ft. 5 in.
Length of bore	49 3/8 in.
Muzzle velocity	1165 ft/sec.
Max. Range	9000 yds.
Rate of fire	10/12 rds/min.
Elevation	45 degrees
Depression	10 degrees
Traverse	40 degrees
Type of breechblock	Horizontal sliding
Recoil system	Hydro-pneumatic
Length of recoil	27½ - 36 in.
Sight	Panoramic
Rifling	28 grooves
Ammunition	HE, AP, Hollow charge Shrap., Incend., Illum.



TYPE 38 75MM FIELD GUN

75 MM FIELD GUN TYPE 38 (1905)

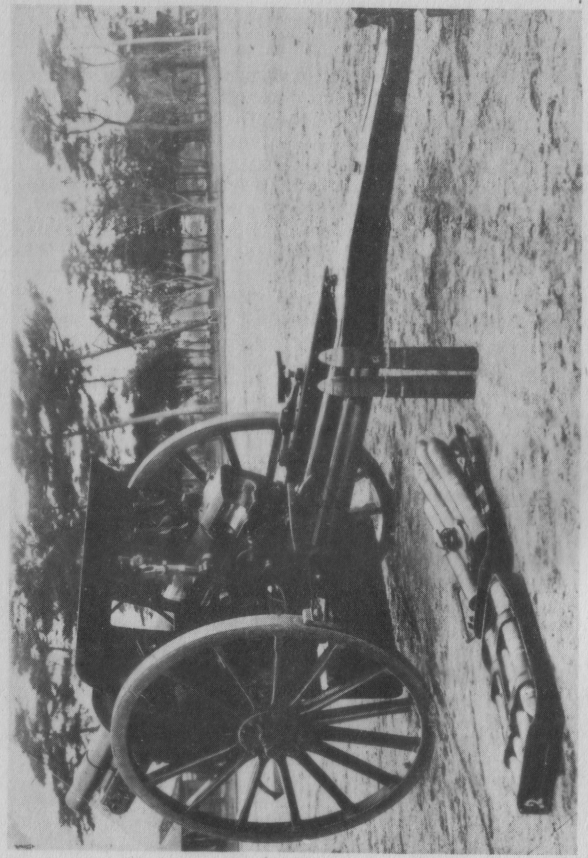
The Type 38, 75 mm gun was the first field gun of its type manufactured by the Japanese. It was designed from the Krupp field gun and manufactured in Japan. The original Type 38 had a straight trail which greatly limited its elevation. This fault was eliminated in later modifications. It is believed that the Type 38 has been replaced in most combat artillery units, but it may be encountered in regular Japanese garrison areas where the enemy is forced to use all available weapons.

Elevating, traversing, and sighting mechanisms are located on the left. The piece is fired by means of a lanyard.

Type 41 Cavalry Gun is almost identical except it is lighter and has interrupted thread breech block.

Characteristics

Caliber	75 mm (2.95 in.)
Weight (overall)	4,500 lbs.
Length (overall)	16.5 ft.
Length of bore	7 ft. 7 in.
Trail	Straight
Elevation	16 degrees
Depression	8 degrees
Traverse	7 degrees
Max. Range	7200 yds.
Rate of fire	10/12 rds/min.
Type of breechblock	Horizontal sliding
Recoil system	Hydro-spring
Length of recoil	40 in.
Sight	Panoramic
Ammunition	Shrapnel, common shell, Long pointed HE.



TYPE 38 75 MM FIELD GUN (IMPROVED)

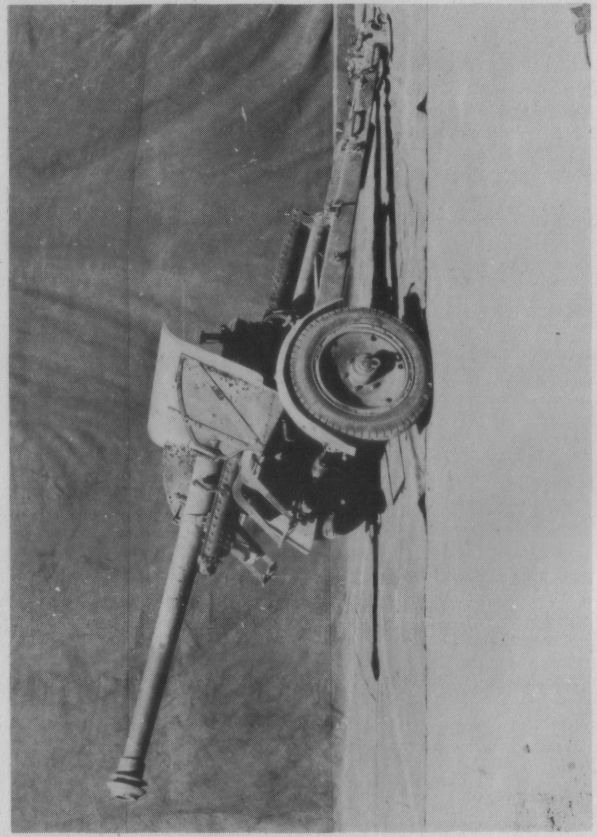
75 MM FIELD GUN TYPE 38 (IMPROVED)

This gun was devised during World War I to overcome some of the limitations of the original Type 38. The two principal improvements are the addition of equilibrators to compensate for muzzle heaviness, and the modification of the trail to permit greater elevation. An open box trail was substituted for the straight single trail. The hydrospring recoil mechanism was made variable to accomodate recoil when the gun is fired at a higher angle. Axle traverse was retained, thus limiting traverse to seven degrees.

The weapon is designed for horse draft only and can not be adapted to motor transport. Although the Japs have produced far more modern 75 mm guns, the Improved Model 38 has not been completely replaced in the division artillery.

Characteristics

Caliber	75 mm (2.95 in.)
Weight	2,500 lbs.
Length (firing position)	17 ft.
Width (overall)	63 in.
Length of bore	7 ft. 6 in.
Muzzle velocity	1,977 ft/sec.
Max. Range	13,000 yds.
Rate of fire	10/12 rds/min.
Elevation	43 degrees
Depression	8 degrees
Traverse	7 degrees
Type of breechblock	Horizontal sliding
Recoil system	Variable hydro-spring
Length of recoil	48.8 in.
Sight	Panoramic
Ammunition	HE, APHE, Shrapnel, Long pointed HE, Smoke, Incendiary, & Illum.



TYPE 90 75MM FIELD GUN

75 MM FIELD GUN TYPE 90 (1930)

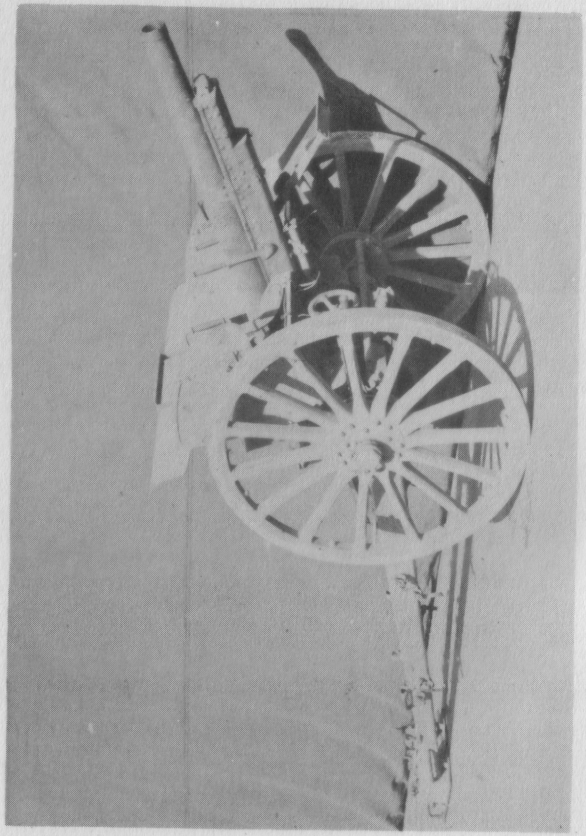
Besides being the most efficient light artillery piece, the Type 90 75 mm gun is also the Japs' best long range, antitank gun. It is easily recognized by its long barrel and baffle-plate muzzle brake. The gun is of modern design; it has a horizontal sliding breech block, hydro-pneumatic recoil mechanism, leaf spring suspension system, two coil spring equilibrators, and split trail. Guns encountered to date have been equipped with solid rubber tires; however the carriage may be equipped with large, steel-rimmed, wooden wheels when horsedrawn.

Fixed ammunition is fired. The APHE round has two propellent increments; other type rounds have only one.

A Type 90 75 mm gun mounted on a self-propelled mount which consists of the chassis of a Type 97 improved medium tank has been encountered. The only apparent difference between this weapon and the field gun is that the former has a smaller breech block and the muzzle brake is replaced by a tapered muzzle ring.

Characteristics

Caliber	75 mm (2.95 in.)
Length of tube	8 ft. 9 in.
Weight (overall)	3,080 lbs.
Length (overall)	18 ft. 5 in.
Maximum Range	15,000 yds.
Muzzle velocity	2,230 ft/sec.
Elevation	45 degrees
Traverse	50 degrees
Rate of fire	10/12 rds/min.
Ammunition	APHE, HE, HE Pointed, Shrap., Incen., Smoke.



TYPE 95 75 MM FIELD GUN

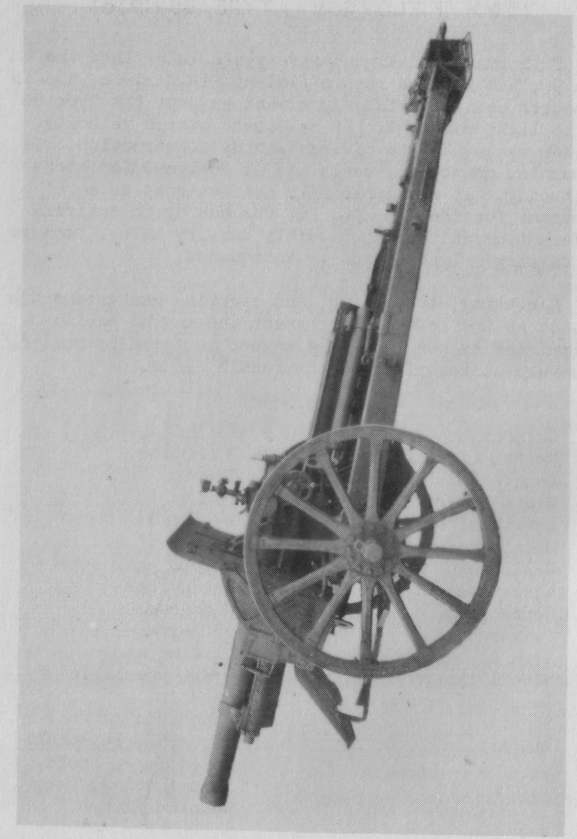
75 MM FIELD GUN TYPE 95 (1935)

This gun was designed five years later than the Type 90, but it is a less efficient field piece, and is of poorer design. Its only advantage over the Type 90 is its lighter weight. It has lower muzzle velocity, shorter range, and is of less sturdy construction. It is mounted on wooden wheels and is designed for horse draft only. It was apparently not designed as a replacement for the Type 90, but for use by an entirely different organization, possibly cavalry units, because the cavalry's Type 41 gun is antiquated.

Elevating, traversing, and sighting mechanisms are located at the left of the breech and may be easily manipulated by one man. The weapon is fired by pulling a lanyard at the right of the recoil slide.

Characteristics

Caliber	75 mm (2.95 in.)
Weight (firing position)	2,440 lbs.
Length (firing position)	178 in.
Width (overall)	70 in.
Length of bore	89.7 in.
Muzzle velocity	1,640 ft/sec.
Max. Range	12,000 yds.
Elevation	43 degrees
Depression	8 degrees
Traverse	25 degrees
Type of breechblock	Sliding wedge
Recoil system	Hydro-pneumatic
Length of recoil	48.7 in.
Sight	Panoramic
Ammunition	HE, APHE, Shrapnel, Incendiary, Smoke, Illuminating, Long pointed HE.



TYPE 91 105 MM HOWITZER

105 MM HOWITZER TYPE 91 (1931)

The Type 91 105 mm Howitzer is a light-weight field piece designed for horse drawn artillery units. Its wooden wheels and light construction make high speed mobility impossible.

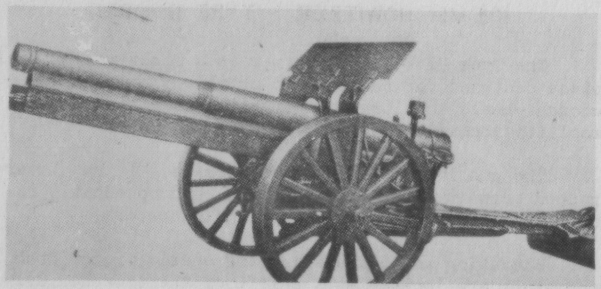
The gun itself is of modern design. It has interrupted screw type breech mechanism, hydropneumatic recoil mechanism, and spring type equilibrators.

Elevating and traversing hand wheels, range drum, and sight are located at the left of the breech. Calculation of firing data and sighting may be accomplished as with U. S. Artillery. The firing mechanism is a simple percussion hammer pivoted at the base of the breech. It is actuated by a lanyard.

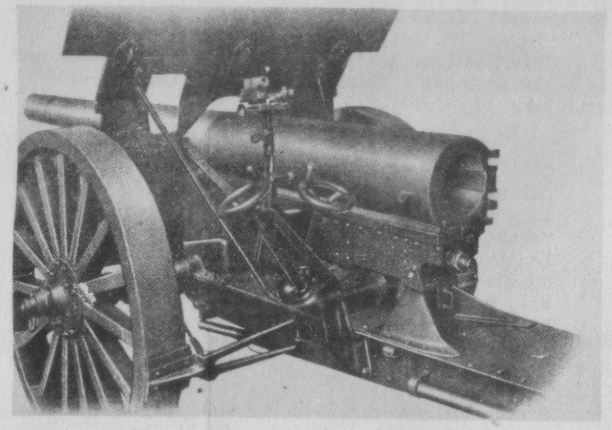
This howitzer has been encountered frequently and is believed to be a standard weapon in the division artillery.

Characteristics

Caliber	105 mm (4.095 in.)
Length of bore	25 calibers
Weight (overall)	4,360 lbs.
Length (overall)	17 ft.
Muzzle velocity	1,790 ft/sec.
Max. Range	11,700 yds.
Rate of fire	6/8 rds/min.
Traverse	45 degrees
Elevation	45 degrees
Depression	5 degrees
Breech block	Interrupted thread
Wt. of projectile	34.74 lbs.
Ammunition	HE and Hollow charge



TYPE 38 105 MM GUN



BREECH OF TYPE 38 105 MM GUN

105 MM GUN TYPE 38 (1905)

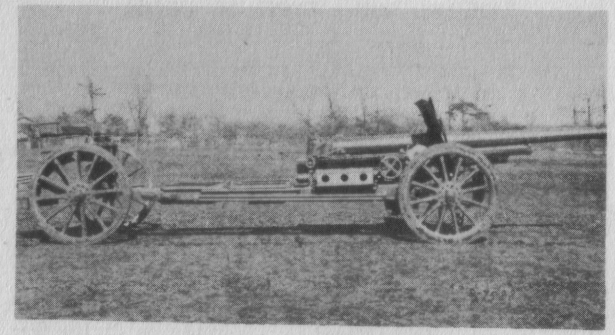
The Type 38 series of Japanese field pieces included 75 mm, 105 mm, 120 mm, and 150 mm models. None of these are considered standard equipment for front line units, but they may be encountered infrequently. As far as is known they are still in use in China. They are characterized by short tubes, hydrospring recoil mechanisms, and plain box trails which greatly limit their flexibility.

The Type 38 105 mm gun has an interrupted screw type breechblock. Its elevating and traversing hand wheels, and its panoramic sight are located at the left of the breech. It is fired by a percussion firing device actuated by a lanyard.

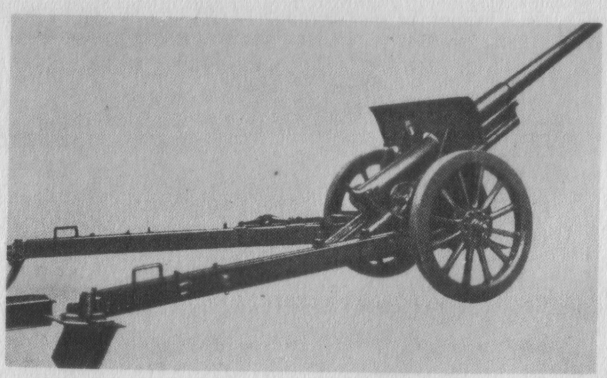
This weapon is easily recognized by the comparatively long cradle, single trail, and angled shield.

Characteristics

Caliber	105 mm (4.095 in.)
Length of bore	129.7 in. (31.67 cal.)
Muzzle velocity	1771 ft/sec.
Elevation	15 degrees
Depression	2 degrees
Traverse	3 degrees
Breech block	Interrupted screw
Weight (traveling position)	7,085 lbs.
Length (traveling position)	27 ft. 7 in.
Height	3 ft. 6 in.
Recoil system	Hydro-spring
Length of recoil	62.4 in. (standard) 65.5 in. (maximum)



TRAVELING POSITION



14th YEAR TYPE 105 MM GUN

105 MM GUN 14th YEAR TYPE (1925)

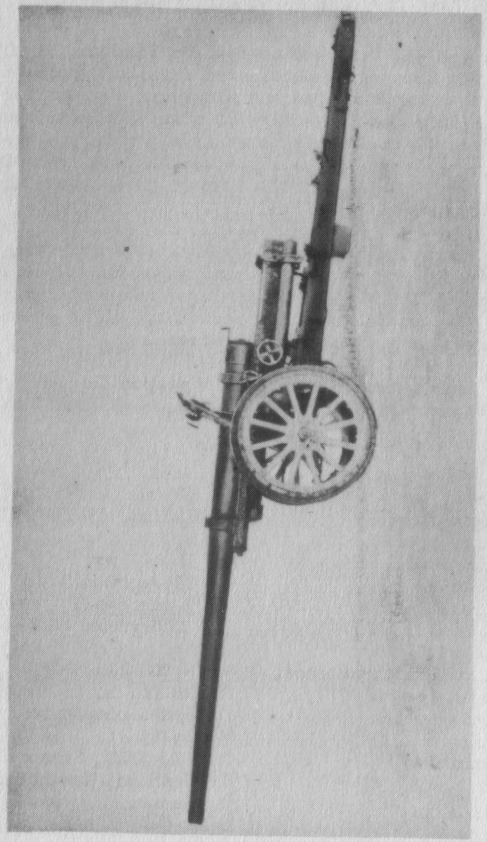
This gun was designed to replace the Type 38 105mm gun, but was apparently considered a failure because few were ever manufactured and a new gun was adopted in 1932. The principal advantage of this type over the Type 38 is that it is able to achieve greater ranges. The 14th year type was the first Jap gun equipped with split trails, and the first 105 mm to have hydro-pneumatic recoil mechanism.

The elevating hand wheel is located at the right of the breech, the traversing hand wheel is at the left. The weapon is lanyard fired. A limber supports the trail of the gun in traveling position. It is drawn by eight horses or a tracked prime mover.

The Japs intended to use this weapon for long range counter-battery fire, but it did not prove satisfactory.

Characteristics

Caliber	105 mm (4.095 in.)
Length of bore	140 in. (34.19 cal.)
Muzzle velocity	2,033 ft/sec.
Max. Range	14,497 yds.
Elevation	33 degrees
Depression	5 degrees
Traverse	30 degrees
Rate of fire	6/8 rds/min
Wt. of gun (trav. posi.)	8,221 lbs.
Length (overall)	26 ft. 10 in.
Recoil system	Hydro-pneumatic
Trail	Split
Ammunition	HE, APHE, Shrapnel, Pointed, Incendiary Smoke.



TYPE 92 105 MM GUN

105 MM GUN TYPE 92 (1932)

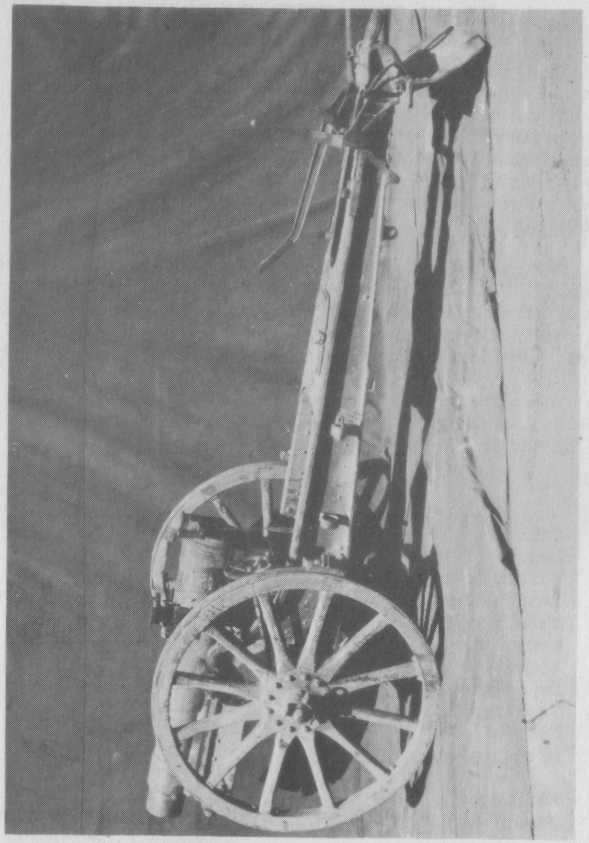
This gun was designed to replace the 14th Year Type and has apparently become the standard weapon of its class. It may be easily recognized by its long, slender barrel and split trail. It is equipped with hydro-pneumatic recoil mechanism, solid rubber-tired wheels, and stepped-thread tapered breechblock. Three spade plates are provided for each trail for added stabilization during firing.

The gun is designed for long range fire. It is normally horse drawn, but may be moved by motor transport. It must be put into traveling position by pulling all recoiling parts well to the rear by means of a hand winch, and dismounting the trail blocks and spade plates.

The elevating hand wheel is at the right of the breech; the traversing hand wheel and panoramic sight are at the left.

Characteristics

Caliber	105 mm (4.095 in.)
Length of bore	184 in. (45 cal.)
Weight (overall)	9,620 lbs.
Length (overall)	32 ft.
Muzzle velocity	2,492 ft/sec.
Max. Range	20,000 yds.
Elevation	45 degrees
Depression	5 degrees
Traverse	36 degrees
Rate of fire	6/8 rds/min.
Breech block	Interrupted stepped thread.
Rifling	32 lands & grooves
Ammunition	HE, APHE, Pointed, Incendiary, Shrapnel.



TYPE 38 120 MM HOWITZER

120 MM HOWITZER TYPE 38 (1905)

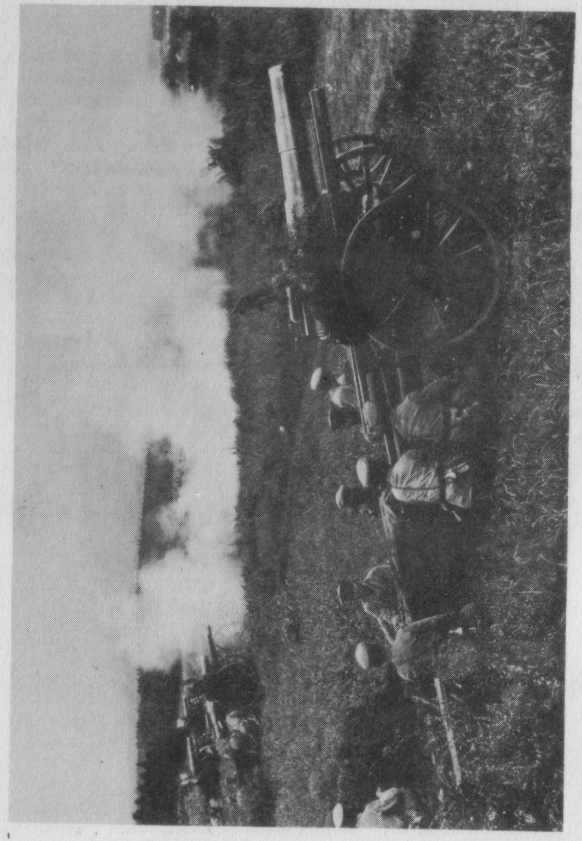
The 12 cm Howitzer Type 38 is another obsolete Japanese field piece. It was encountered for the first time on Iwo Jima and may be used again as an emergency or substitute weapon. It is characterized by a very short barrel, box trail, and large wooden wheels. It has an interrupted thread type breech block and hydro-spring recoil mechanism. No shield is used with this weapon.

Elevating and traversing hand wheels, and panoramic sight are at the left of the breech. The firing mechanism is a lanyard actuated percussion type.

Armor piercing high explosive and shrapnel shells have been recovered. Both projectiles have the usual color markings and are similar in appearance to 75 mm APHE and shrapnel shells. The APHE shell weighs 44 pounds; the shrapnel shell contains 300 lead balls.

Characteristics

Caliber	120 mm (4.7 in.)
Length (traveling position)	16 ft. 1 in.
Weight (traveling position)	4,771 lbs.
Length of bore	4 ft. 4 in. (11 cal.)
Width	4 ft. 10 in.
Height	5 ft. 11 in.
Elevation	43 degrees.
Depression	5 degrees
Traverse	1.45 degrees
Recoil system	Hydro-spring
Breech block	Interrupted thread
Sight	Panoramic
Ammunition	APHE, HE, Shrapnel



4th YEAR TYPE 150 MM HOWITZER

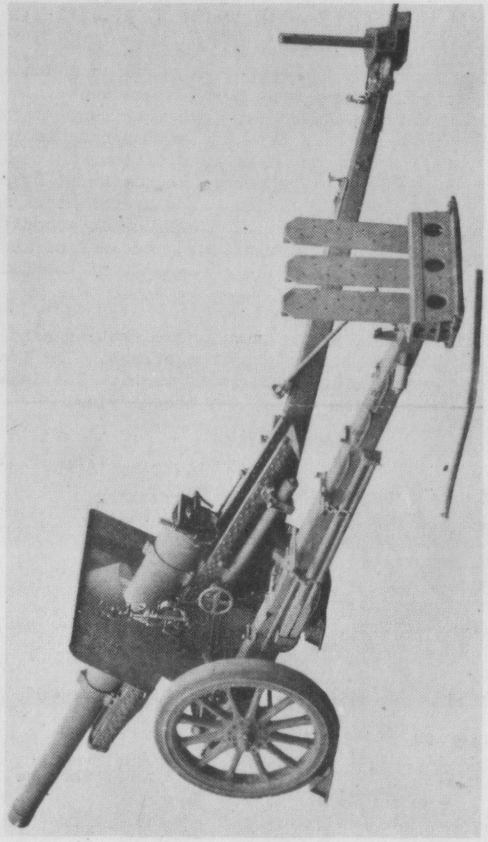
150 MM HOWITZER 4th YEAR TYPE (1915)

The 4th Year Type Howitzer is antiquated and has been replaced in many units by more modern guns; however, it is still a standard Japanese artillery weapon. It is designed for horse draft only and must be broken into two loads for purpose of transportation. Each load is drawn by six horses. The recoil mechanism is hydropneumatic with a floating piston. The breech block is of the vertical sliding type. The weapon has a modified box trail. This weapon is outstanding because of its extreme lightness compared with the weight of the heavy 15 cm shell.

Panoramic sight, range drum, and elevating hand wheel are located at the left of the breech. The traversing hand wheel is located at the right. The lanyard is attached at the top of the breech ring.

Characteristics

Caliber	149.2 mm (6 in.)
Weight (firing position)	6,100 lbs.
Length (firing position)	20.9 ft.
Height (firing position)	83 in.
Width (overall)	75 in.
Length of bore	5 ft.
Length of chamber	16 in.
Muzzle velocity	1,350 ft/sec.
Max. Range	10,500 yds.
Rate of fire	3/4 rds/min.
Traverse	6 degrees
Elevation	65 degrees
Depression	5 degrees
Length of recoil	52.3 in.
Ammunition	HE, APHE, Shrapnel, Smoke.
Weight of projectile	80 lbs.



TYPE 96 150 MM HOWITZER

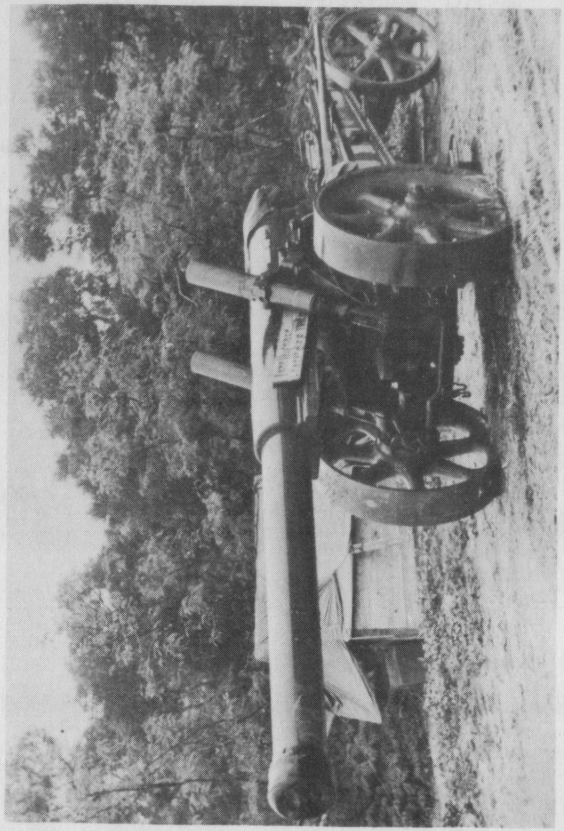
150 MM HOWITZER TYPE 96 (1936)

This weapon was designed as a replacement for the 4th Year Type, 150 mm Howitzer, but to date has not been used extensively. It is perhaps the most modern artillery weapon used by the Japanese. It is mounted on solid rubber-tired wooden wheels and is usually drawn by a tractor. It has leaf springs; during firing the springs are jacked down so that the piece fires from the axle. It has an interrupted tapered thread breech block, hydro-pneumatic recoil mechanism and split trail. Although maximum elevation is given as 65 degrees, a deep firing pit must be dug beneath the breech before elevations greater than 45 degrees can be attained.

The elevating hand wheel and panoramic sight are located at the left of the breech, and are operated by the gunner. The traversing hand wheel and lanyard are at the right.

Characteristics

Caliber	150 mm (5.9 in.)
Weight (firing position)	9,108 lbs.
Length (firing position)	22.2 ft.
Height (firing position)	6.25 ft.
Width (overall)	6.6 ft.
Length of bore	9.4 ft.
Max. Range	13,000 yds.
Rate of fire	3/4 rds/min.
Traverse	30 degrees
Elevation	65 degrees
Depression	5 degrees
Length of recoil	23.6 to 40.9 in.
Ammunition	Semi-fixed,HE,AP,HE Pointed,Shrapnel,Smoke, Incendiary tracer.
Weight of projectile	80 lbs.



TYPE 89 150 MM GUN

150 MM GUN TYPE 89 (1929)

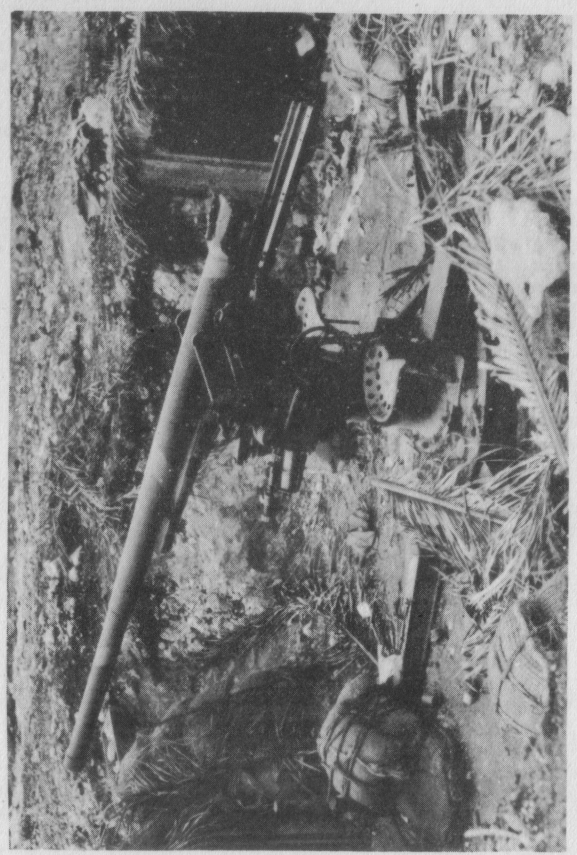
The Japanese Type 89, 15 cm Gun is comparable to the old U.S. M1918 in many respects, but it has a shorter range and is less efficient than similar caliber guns of other nations. Types 45 and 90, 15 cm guns have also been reported.

The Type 89 has a variable hydro-pneumatic recoil system and an interrupted thread breech block; the latter has a mushroom head and stepped-up buttress type screws. Two carriages have been recovered. The only apparent difference is in the two equilibrators. One has spring type and the other hydrospring type. The trail is the split box type with detachable trail spades. The traversing handwheel and scale are located on the left side of the carriage; the scale is graduated up to 350 mils in ten mil increments. The elevation scale, range drum, and sight are on the right side of the carriage; the range scale is graduated up to 42 degrees.

An 8 ton prime mover is used to tow the piece. For traveling, the gun is broken down in two loads, tube and carriage.

Characteristics

Caliber	149.1 mm (5.87 in.)
Weight (firing position)	22,830 lbs.
Length (firing position)	26 ft. 4 in.
Length of bore	18 ft. 10 in.
Muzzle velocity	2870 ft/sec.
Maximum range	21,800 yds.
Elevation	42 degrees
Depression	5 degrees
Traverse	350 mils R & L
Rate of fire	2 rds/min.
Ammunition	HE, APHE, Long pointed HE, Shrap., Illumi.



TYPE 88 75 MM ANTI-AIRCRAFT GUN

75 MM ANTI-AIRCRAFT GUN TYPE 88 (1928)

The Type 88 75 mm Gun is primarily an anti-aircraft gun designed for quick emplacement, however it is often used as a field piece or as a coast defense gun. It is mounted on five folding outriggers with removable rubber tired wheels, and may be moved by motor transport.

The gun is equipped with a semi-automatic, horizontal sliding breech block which is opened on recoil and is closed upon the insertion of a shell. The firing mechanism is spring actuated and is operated by a lanyard.

This weapon has been replaced in many units by guns of later design; however it has been more frequently encountered than any other heavy AA gun and is still considered to be standard equipment.

Characteristics

Caliber	75 mm (2.95 in.)
Weight (overall)	6,050 lbs.
Length (traveling position)	14 ft. 9 in.
Length (firing position)	16 ft. 7 in.
Height (traveling position)	79.5 in.
Width (overall trav. posi.)	76.8 in.
Length of bore	44.2 calibers
Muzzle velocity	2,360 ft/sec.
Maximum Range (horizontal)	14,800 yds.
Maximum Range (vertical)	29,000 ft.
Rate of fire	20 rds/min.
Traverse	360 degrees
Elevation	85 degrees
Depression	0 degrees
Length of recoil	23.6 in.
Breech block	Horizontal sliding
Wt. of projectile	14.4 lbs.

10th YEAR TYPE 8 CM DUAL PURPOSE GUN

8 CM DUAL PURPOSE GUN 10th YEAR TYPE (1921)

The Japs refer to this weapon as an 8 cm gun; however, actual land to land measurement of the diameter of the bore reveals that its caliber is 3 inches. It is a navy gun mounted on a pedestal and apparently designed for use aboard ships, but it is often found emplaced on land in a position to fire missions identical to those of the 75 mm Type 88. Its principal disadvantage as a ground weapon is its lack of mobility.

Revetments found for this weapon are similar to those for the Type 88, but the inner diameter varies from 14-20 feet.

The breech block is a diagonal sliding type and must be hand operated. The firing mechanism is actuated by a lanyard.

This gun has lower muzzle velocity and shorter range than the Type 88, and is considered to be greatly inferior in performance.

Characteristics

Caliber	76.2 mm
Length of bore	10 ft. (40 cal.)
Length (overall)	11 ft.
Muzzle velocity	2230 ft/sec.
Max. Range (horizontal)	11,800 yds.
Max. Range (vertical)	18,900 ft.
Rate of fire	18 rds/min.
Traverse	360 degrees
Elevation	75 degrees
Depression	5 degrees
Breech block	Diagonal sliding
Wt. of projectile	13.2 lbs.
Ammunition	H.E.

13th YEAR TYPE 8 CM COAST DEFENSE GUN

8 CM COAST DEFENSE GUN 13th YEAR TYPE (1924)

The Japanese 8 cm coast defense guns are copies of Armstrong-Vickers Navy type pedestal mounted guns. They are identical except for minor changes in the recoil cylinder, sight mount, sight bracket, and cradle. Many of these weapons encountered were the original Vickers guns which had been captured from the British.

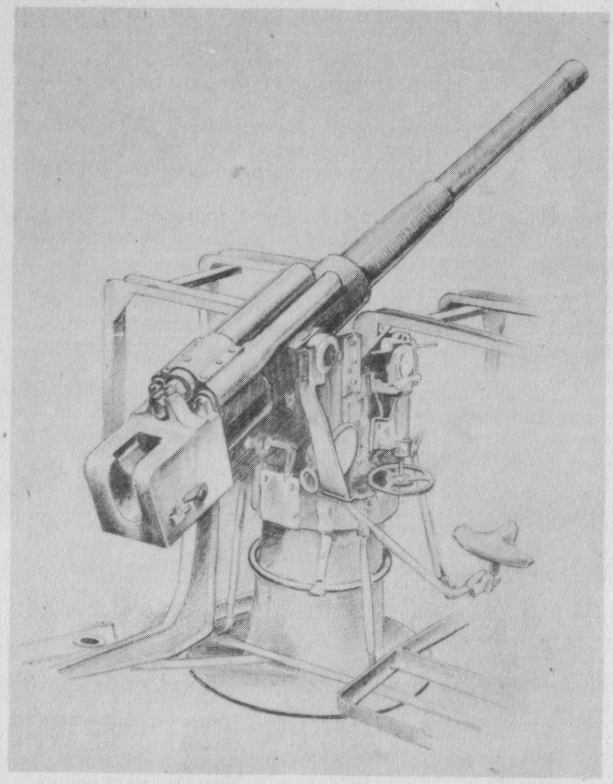
These CD guns have been found emplaced in Kiska, Tarawa, Kolombangara, Saipan, and Tinian as non-mobile emplaced weapons.

Like the 8 cm High Angle gun this weapon has an actual bore diameter of 3 inches. Japanese refer to the caliber of a gun to the nearest whole centimeter.

No fire control equipment has been found with these guns, and it is believed that firing is carried out by means of direct laying with telescopic sights combined with range scales.

Characteristics

Caliber	76.2 mm (3 in.)
Length of bore	40 calibers
Length (overall)	11 ft. 3 in.
Muzzle velocity	2260 ft/sec.
Max. Range	8700 yds.
Traverse	360 degrees
Elevation	20 degrees
Depression	5 degrees
Breech block	Two step interrupted screw.
Recoil system	Hydro-spring
Ammunition	H.E. semi-fixed



TYPE 99 88 MM ANTI-AIRCRAFT GUN

88 MM ANTI-AIRCRAFT GUN TYPE 99 (1939)

Capture of the Type 99, 88 mm anti-aircraft gun in Burma reveals that, contrary to previous expectations, it is not similar in appearance to German Flak guns. It has a shorter barrel (42.3 calibers) than its German counterpart and although fired from a fixed mount, allegedly it is broken down into six loads for transport, thus making it a semi-mobile weapon.

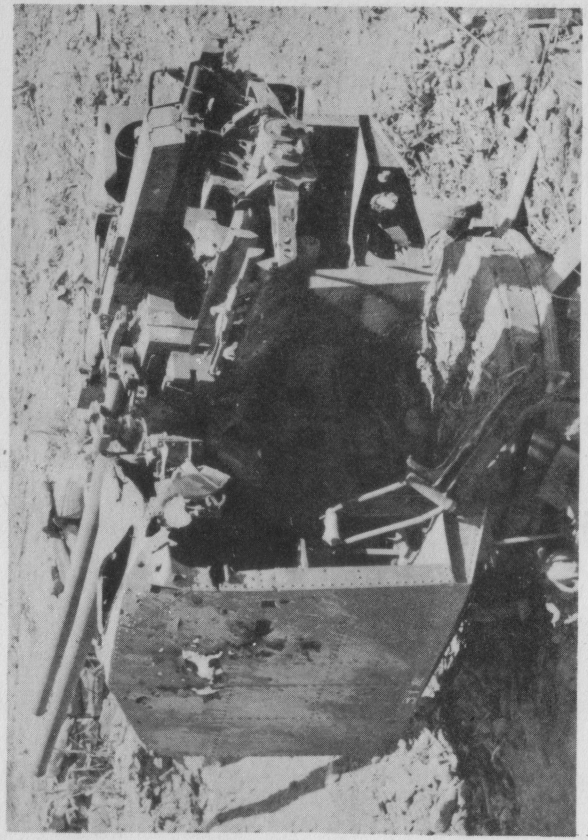
The breech block is the vertical sliding wedge type; recoil system is the hydro-spring type and is mounted above the barrel. Open sights are present and there are dials for use with the usual AA directors.

Ammunition for this weapon was captured on Saipan. The HE projectile weighs 20 pounds and takes the Type 100 combination time and impact fuze which has a maximum setting of 50 seconds.

The physical characteristics of the gun given below are from actual measure. The range, muzzle velocity, etc., are estimates based on the best available information.

Characteristics

Caliber	88 mm (3.46 in.)
Length of barrel	12 ft. 2 in.
Length of chamber	2 ft.
Length (overall)	13 ft.
Weight (overall)	14,350 lbs.
Type of mount	Fixed pedestal
Diameter of pedestal base	5 ft. 9 in.
Muzzle velocity	2550 ft/sec.
Max. Range (horizontal)	17,400 yds.
Max. Range (vertical)	32,000 ft.
Elevation	-7 to 80 degrees



TYPE 98 10CM DUAL PURPOSE GUN

10 CM DUAL PURPOSE GUN TYPE 98 (1938)

This twin mount dual purpose gun was encountered for the first time on Iwo Jima. With its high muzzle velocity and long range it is one of the Japs most powerful anti-aircraft and medium caliber coast defense weapons.

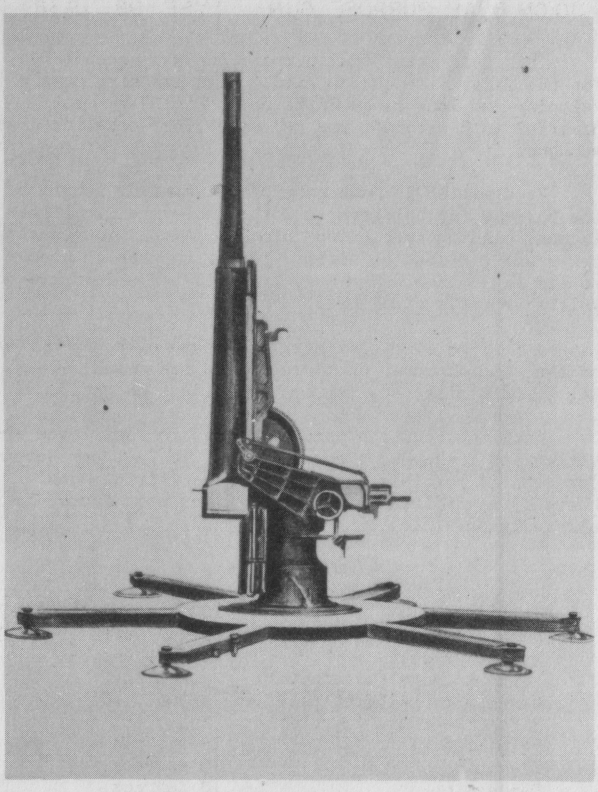
Recognition is made easy by the extreme length of the barrels (65 calibers) and the two symmetrical horizontal sliding type breech blocks. Ammunition loading trays are provided on either side of the breech blocks to aid in loading. The Navy type riveted shield revolves around a steel base.

A four meter rangefinder was found with the battery on Iwo, and although no director was recovered, Types 94, 2 and 4 directors may be used with these weapons.

With the electric motor provided to facilitate elevation and traverse, a speed of over 16 feet per second for each is possible. A rate of fire (firing both barrels) of 456 rounds per hour (8 rds per minute) is allegedly possible.

Characteristics

Caliber	100 mm (3.93 in.)
Length of bore	65 calibers
Muzzle velocity	3280 ft/sec.
Maximum range (horizontal)	20,400 yds.
Maximum range (vertical)	44,300 yds.
Effective range (vertical)	34,400 ft.
Rate of fire	15 rds/min.
Elevation	90 degrees
Depression	10 degrees
Weight of projectile	28.7 pounds



14th YEAR TYPE 105 MM ANTI-AIRCRAFT GUN

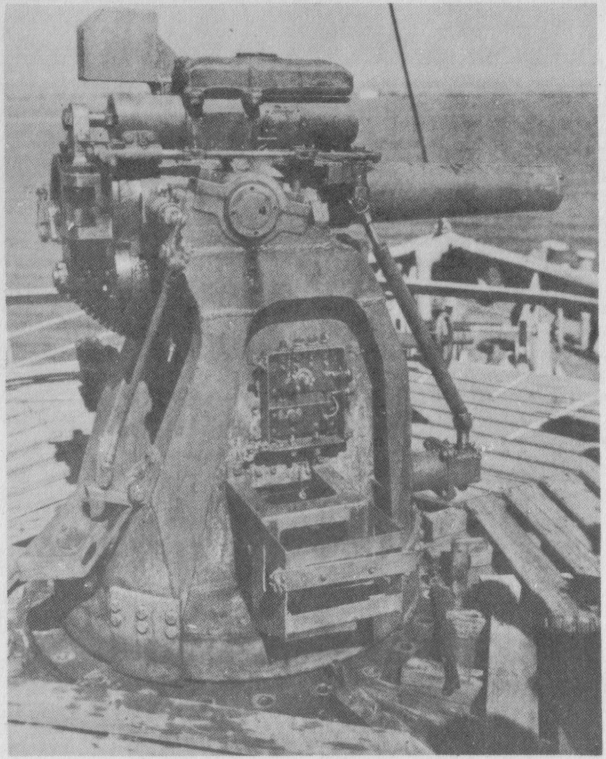
105 MM ANTI-AIRCRAFT GUN 14th YEAR TYPE (1925)

The 14th Year Type 105 mm gun is the largest mobile Japanese anti-aircraft weapon known to be in use at the present time. It is similar in several respects to the Type 88 75 mm gun, having a pedestal mount, horizontal sliding breechblock, and hydro-pneumatic recoil system. The gun is also probably a semi-automatic loading and firing weapon and has a continuous pull percussion type firing mechanism. In firing position the rubber-tired wheels are removed and the gun rests on six metal outriggers.

The original model of this gun was reported to be unsatisfactory. It is known that the breechblock which was closed by hand and opened automatically after firing, did not work satisfactorily and was subject to jams. Probably some modification has been made in the newer model; however none of these new guns have been captured and detailed information is unavailable. This weapon may be obsolescent.

Characteristics

Caliber	105 mm (4.095 in.)
Weight (gun and mount)	7 tons
Length of bore	13 ft. 9 in.
Elevation	0 to 85 degrees
Traverse	360 degrees
Max. Range (horizontal)	19,400 yds.
Max. Range (vertical)	36,000 ft.
Rate of fire	12 rds/min.
Breechblock	Horizontal sliding plug. Closed by hand, opens automatically.
Muzzle velocity	2,300 ft/sec.
Recoil system	Hydro-pneumatic
Ammunition	H.E.



12 CM SHORT NAVAL GUN

12 CM SHORT NAVAL GUN

This gun was designed primarily for anti-aircraft and antisubmarine use aboard merchant ships of less than 5000 tons, however it is easily adapted to ground use. It is usually emplaced on high ground in a position to cover beaches and other low areas. Twelve guns were found in concrete casemented positions on Iwo Jima.

This gun is set on a revolving pedestal mount. It has an interrupted screw type breechblock and a hydro-spring recoil mechanism. The monobloc barrel has 24 lands and grooves. Sight, elevating and traversing handwheels are mounted on the left side of the piece.

Rate of fire with this weapon is extremely low because it is necessary to depress the gun to an angle below 20 degrees before loading a round into the chamber.

The Japanese adopted this gun because it is of simpler construction than standard weapons, and is thus suitable to mass production. Because of the ease in operation, relatively inexperienced gun crews can handle the weapon fairly effectively.

Characteristics

Caliber	12 cm (4.72 in.)
Length of bore	12 calibers
Muzzle velocity	950 ft/sec.
Elevation	65 degrees
Max. Range	5800 yds.
Weight (overall)	8,963 lbs.
Rate of fire	10 rds/min.
Recoil system	Hydro-spring
Weight of projectile	28.6 lbs.
Ammunition	HE, Illum., Incen., & Incendiary-Shrapnel

10th YEAR TYPE 12 CM DUAL PURPOSE GUN

12 CM DUAL PURPOSE GUN 10th YEAR TYPE (1921)

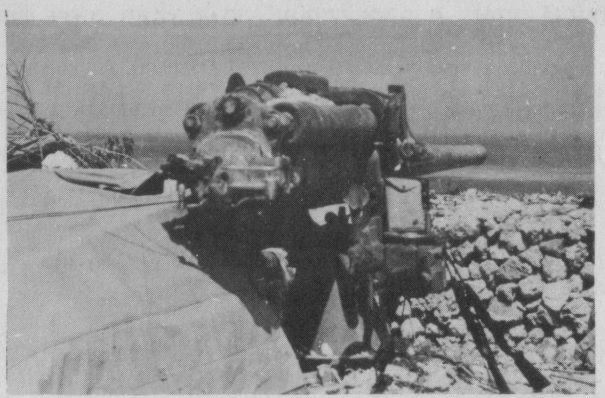
This weapon has been captured frequently and is often utilized by our own troops. There are two to four guns in a battery, emplaced along coast lines as a coast defense weapon, or on high ground in a position to fire AA and field missions. The guns are mounted on standard navy pedestal mounts set upon a base plate buried in the floor of the gun pit to furnish stability.

Type 2 directors are often found with the guns, but each weapon is equipped with simple ring sights for direct anti-aircraft fire.

The breech block is a horizontal sliding type, manually operated, and of modern design. The gun is elevated from a seat at the left of the pedestal and traversed from a seat at the right. The firing mechanism is actuated by a lanyard at the left of the breech ring.

Characteristics

Caliber	4.7 in.
Length of bore	45 calibers
Length (overall)	17 ft. 8 in.
Weight (overall)	6,416 lbs.
Muzzle velocity	2700 ft/sec.
Max. Range (horizontal)	17,100 yds.
Max. Range (vertical)	22,900 ft.
Rate of fire	10/12 rds.min.
Elevation	75 degrees
Depression	10 degrees
Traverse	360 degrees
Breech block	Sliding wedge
Recoil system	Hydro-pneumatic
Length of recoil	19 in.
Ammunition	HE fixed (45.7 lbs.)



3rd YEAR TYPE 12 CM COAST DEFENSE GUN

JAPANESE ARTILLERY WEAPONS. RESTRICTED.
CINCPAC-CINCPOA BULLETIN 152-45. 1 JULY 1945.

12 CM COAST DEFENSE GUN 3rd YEAR TYPE (1914)

Our forces have encountered 3rd Year Type 12 cm CD Guns in the Marianas, Solomons, and the Admiralty group. They probably were manufactured originally for use aboard destroyers, but have been widely used as land weapons.

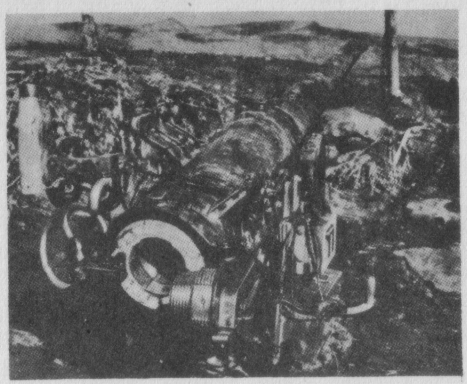
The gun is of the built up type with right hand rifling. It has a horizontal interrupted screw type breech block and hydro-pneumatic recoil system. There are no equilibrators. It has been encountered both with and without shields.

Separate loading ammunition with cartridge case is fired; to date only HE common shells have been found, but no doubt an armor-piercing projectile is also used.

No fire control directors were found with the guns. They were laid for direct fire with the aid of telescopic sights.

Characteristics

Caliber	120 mm (4.7 in.)
Length of bore	45 calibers
Length (overall)	18 ft. 4 in.
Width	6 ft. 5 in.
Traverse	360 degrees
Elevation	33 degrees
Depression	6 degrees
Muzzle velocity	2679 ft/sec.
Maximum range	16,350 yds.
Number of lands and grooves	36
Length of chamber	21½ in.
Breech block	Interrupted screw
Recoil system	Hydro-pneumatic
Ammunition	HE, separate loading with shell case



TYPE 38 12 CM COAST DEFENSE GUN

12 CM COAST DEFENSE GUN TYPE 38 (1905)

Four of these weapons were found on Kiska. Two were of British and two were of Japanese Manufacture. They were set on pedestal mounts in concrete and emplaced in circular revetments about 20 feet in diameter. A 150 cm searchlight, 3 meter rangefinder, and telephone and buzzer communication system were used in conjunction with the four gun battery found.

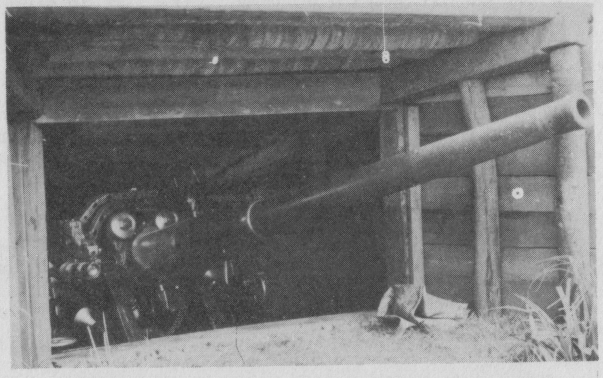
The Type 38 has a horizontal, interrupted screw breech block and is easily recognized by its lack of shield and recoil cylinders above the barrel. Elevation and traversing hand wheels are located on the left of the piece and the gunner fires the weapon by means of an electric trigger.

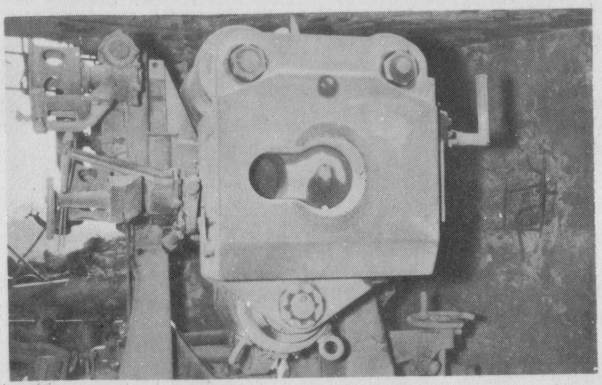
Ammunition is semi-fixed with one increment of powder. It is usually stored in ready rooms dug into the wall of revetments.

Although these Type 38, 40 caliber weapons have probably been replaced by 3rd Year Type, 45 caliber Coast Defense Guns, it is likely that they will be found again in the future.

Characteristics

Caliber	120 mm (4.7 in.)
Length (overall)	16 ft. 6 in.
Traverse	360 degrees
Elevation	30 degrees
Breech block	Interrupted screw
Shield	None
Revetment	20 ft. diameter
Ammunition	Semi-fixed; one powder increment in brass shell case.





11th YEAR TYPE 12 CM COAST DEFENSE GUN

12 CM COAST DEFENSE GUN 11th YEAR TYPE (1922)

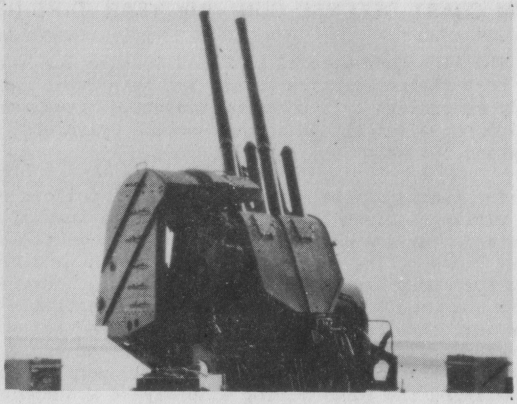
The 11th Year Type 12 cm Coast Defense Gun has the same bore characteristics as the 3rd Year Type, but is easily recognized by its key-hole slotted breech ring and its three recoil and counter-recoil cylinders, two above and one below the barrel.

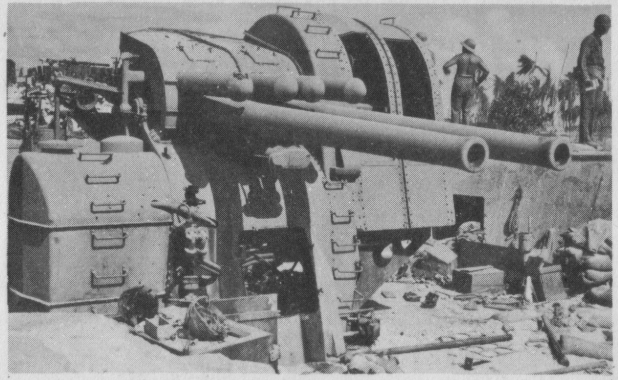
The gun is of the built-up type with uniform right hand rifling. Elevation control is on the left of the piece and traverse on the right with appropriate scales on the sides of the gun. Both the elevation and traverse operators are provided with 15 power, 4 degree sights and have speaking tubes for communication. Besides the normal range scale, a range correction scale is at the left of the piece. An operator is employed for each, with the elevation hand wheel operator normally firing the gun. Firing also may be accomplished by a lanyard attached to the right side of the breech block.

These weapons have been found in cocoanut log emplacements or concrete casemates which limited elevation to about 30 degrees and traverse to about 60 degrees.

Characteristics

Caliber	120 mm (4.7 in.)
Length (overall)	18 ft. 3 in.
Height of gun	6 ft. 11 in.
Diameter of lower carriage	4 ft. 2 in.
Length of bore	17 ft. $3\frac{1}{2}$ in.
Length of rifling	14 ft. $8\frac{1}{2}$ in.
Number of lands	36
Elevation	50 degrees
Depression	10 degrees
Traverse	360 degrees
Muzzle velocity	2090 ft/sec.
Maximum range	13,000 yds.





TYPE 89 127 MM DUAL PURPOSE GUN

127 MM DUAL PURPOSE GUN TYPE 89 (1929)

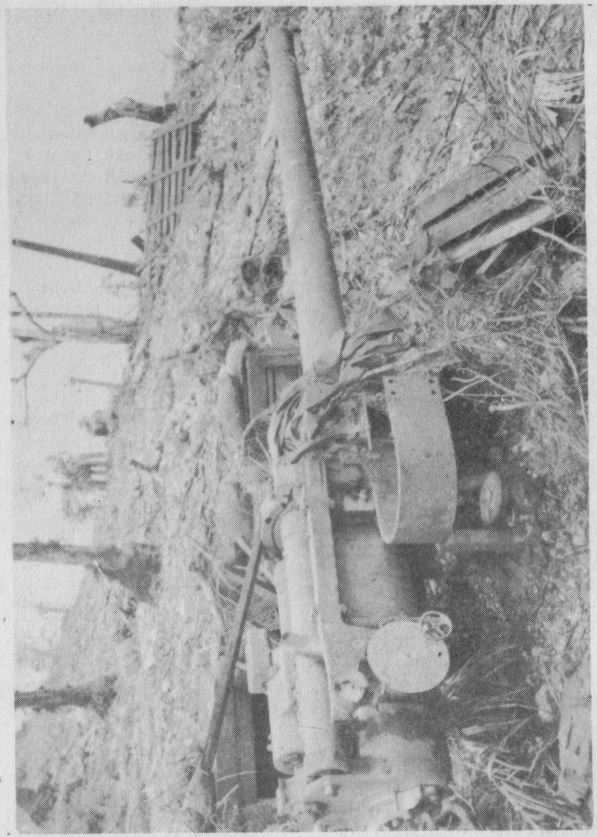
The Japanese five inch dual purpose gun is a naval, pedestal mounted, electrically driven weapon. It was designed for use aboard ships, but has been encountered mounted on the ground. Its large, turret like shield is retained when the weapon is used as a coast defense and anti-aircraft weapon. This shield forms a training compartment which houses the entire breech end of the gun. There is a small, low electrical control booth on the right of the mount.

All batteries encountered have had two of these twin mount guns. Some had a third empty emplacement between them. A fire control building, height finder, and two 15 cm searchlights usually are with each battery.

Emplacements for this type of gun average 33 to 35 feet in diameter and five to six feet in depth. They are usually constructed of concrete. The electrical equipment is sometimes housed in a subterranean chamber below the floor of the pit in which the gun is emplaced.

Characteristics

Caliber	127 mm (5 in.)
Length of bore	40 calibers
Length (overall)	16 ft.
Muzzle velocity	2360 ft/sec.
Max. Range (horizontal)	15,400 yds.
Max. Range (vertical)	19,700 ft.
Rate of fire	12/15 rds/min.,per/bbl.
Elevation	90 degrees
Depression	8 degrees
Traverse	360 degrees
Breech block	Step thread
Recoil system	Hydro-pneumatic
Ammunition	HE fixed & semi-fixed
Weight of projectile	50.8 lbs.



3rd YEAR TYPE 14 CM COAST DEFENSE GUN

14 CM COAST DEFENSE GUN 3rd YEAR TYPE (1914)

This gun is a standard navy type weapon mounted on a pedestal mount usually having either a shield or a hand operated turret. It has often been found in batteries of two or four emplaced on high ground overlooking harbor entrances or other probable ship routes.

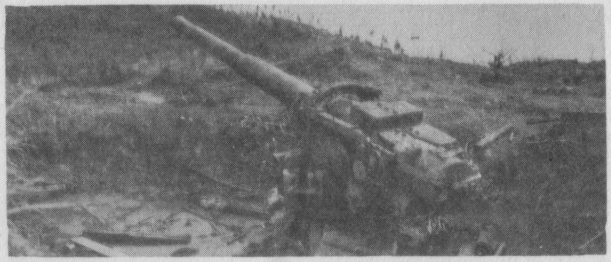
Two guns in a battery have been found in circular concrete emplacements 35 to 38 feet in diameter and 60 feet apart.

The weapon has an interrupted thread, hand operated breech block and hydro-pneumatic recoil mechanism. It is equipped with a range drum and two mounts for telescopic sights; one at the left of the pedestal for adjustments in elevation, and one at the right for adjustments in deflection. No fire control equipment has been found with the gun, and it is supposed that it is fired by direct laying. The lanyard is located at the left of the breech.

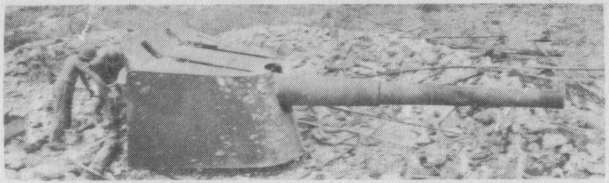
The crew for firing each gun consists of nine men. For servicing and firing a battery of two guns 63 men are used.

Characteristics

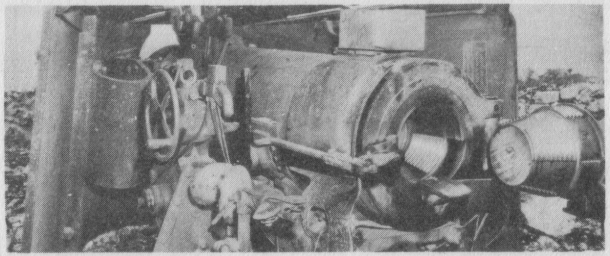
Caliber	14 cm (5.46 in.)
Length of bore	50 calibers
Length (overall)	23 ft. 8 in.
Muzzle velocity	2830 ft/sec.
Max. Range	19,000 yds.
Elevation	30 degrees
Depression	7 degrees
Traverse	360 degrees
Breech block	Interrupted screw
Recoil system	Hydro-pneumatic
Ammunition	Type 0 & Common shell



50 CAL 15 CM COAST DEFENSE GUN



TYPE 33 15 CM COAST DEFENSE GUN



BREECH OF TYPE 33 15 CM CD GUN

15 CM COAST DEFENSE GUN TYPE 33 (1900)

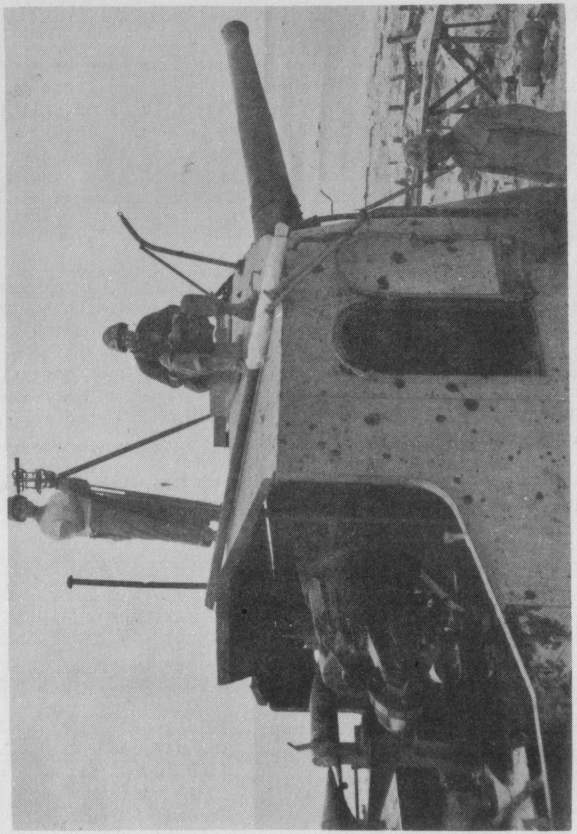
Two types of 15 cm Coast Defense Guns have been encountered. The 40 caliber Type 33 (1900) was found on Kiska, Saipan, and Tinian. The other type, a 50 caliber gun was found in batteries of three on Guam. This gun has an interrupted screw type breech block and an overall length of about 26 feet. It is reported to have a muzzle velocity of 2350 ft/sec and a maximum range of 18,000 yards. Maximum elevation is 20 degrees; traverse is 360 degrees.

The Type 33, 15 cm CD Gun has a shorter barrel than the above mentioned gun and is usually found with a turret shield. The range drum and elevating hand wheel are located on the left of the breech and the traversing hand wheel is at the right. Sighting equipment consists of two telescopic sights. The gun is fired by an electrical trigger mechanism with pistol grip located at the rear of the elevating hand wheel.

A Schneider 155 mm 50 caliber CD Gun with a muzzle velocity over 2800 ft/sec has also been reported.

Characteristics

Caliber	150 mm (5.9 in.)
Length of bore	40 calibers
Length (overall)	21 ft.
Weight (overall)	14,784 lbs.
Maximum range	15,000 yds.
Muzzle velocity	2800 ft/sec.
Elevation	30 degrees
Traverse	360 degrees
Breech block	Interrupted screw
Rate of fire	10/12 rds/min.
Ammunition	HE semi-fixed



TYPE 38 20 CM COAST DEFENSE GUN

20 CM COAST DEFENSE GUN TYPE 38 (1905)

This gun has been found singly mounted in batteries of two placed parallel or in tandem and housed in concrete emplacements about 40 feet in diameter. A narrow gauge railway was employed between the concrete ammunition storage and the emplacements.

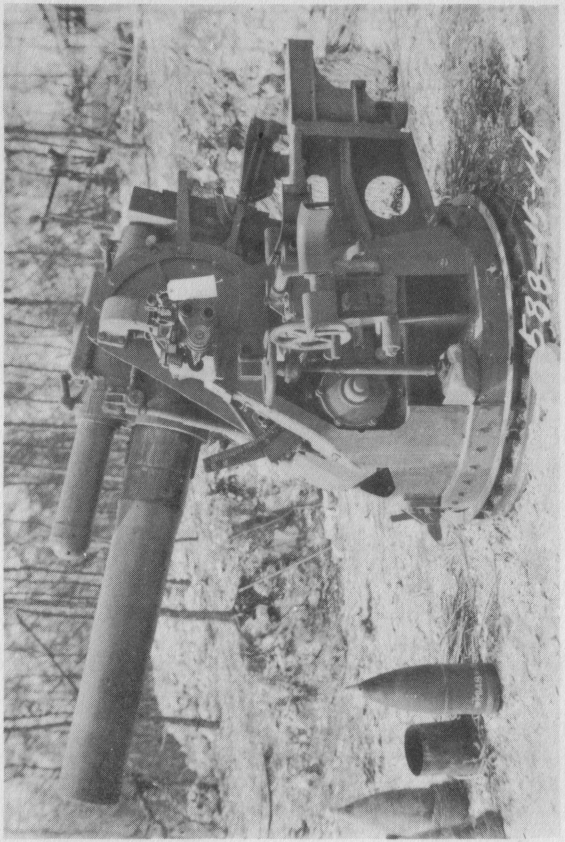
A director and range finder have been found nearby indicating that the guns were trained and pointed electrically. Compressed air flasks were utilized to clear the bore after firing. A crew of 63 men operate a two gun battery.

The naval mount and shield were retained and the barrel protrudes about 19 feet from the shield. The extreme length and characteristic shield make it readily distinguishable from other weapons.

Some of the weapons of this type previously encountered have been of British manufacture. One Armstrong-Whitworth gun has a barrel 40 calibers long and can hurl a 254 pound projectile for a maximum range of 21,000 yards when mounted aboard ship. Muzzle velocity is reported to be 2600 ft/sec.

Characteristics

Caliber	200 mm (8 in.)
Length of bore	30 ft. (45 cal.)
Length (overall)	39 ft. 10 in.
Maximum Range	20,000 yds. (app.)
Muzzle velocity	2500 ft/sec.
Rate of fire	8 rds/min.
Elevation	30 degrees
Depression	15 degrees
Traverse	360 degrees
Breech block	Interrupted thread
Ammunition	Semi-fixed HE



20 CM SHORT NAVAL GUN

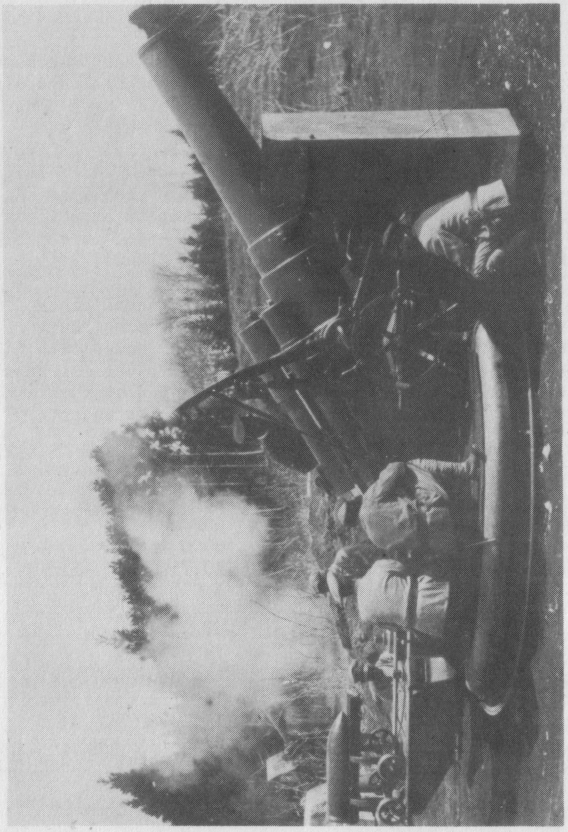
20 CM SHORT NAVAL GUN

This gun was designed to be placed aboard merchant ships over 5,000 tons for use against submarine and aircraft; however, it has been used frequently as a coast defense weapon. It is not very effective as an anti-aircraft weapon. The 20 cm short naval gun is a larger version of the 12 cm short naval gun and is very similar except for size. It is emplaced in open positions on high ground where it can cover land targets as well as the sea. It fires semi-fixed ammunition and is capable of firing approximately ten rounds per minute.

The gun has an interrupted thread breech block, hydro-spring recoil mechanism, and navy pedestal mount. A three meter base range finder has been found with batteries of four guns. Elevating and traversing hand wheels, and sighting equipment are located at the left side of the mount. One man may operate the weapon.

Characteristics

Caliber	203 mm (8 in.)
Length of bore	12 calibers
Length (overall)	6 ft. 8 in.
Max. Range (horizontal)	6900 yds.
Max. Range (vertical)	10,750 ft.
Muzzle velocity	1,016 ft/sec.
Rate of fire	5 rds/min.
Elevation	75 degrees
Depression	15 degrees
Traverse	360 degrees
Breech block	Interrupted thread
Length of recoil	10 in.
Ammunition	Semi-fixed HE, AA, Incendiary, Incendiary Shrapnel.
Weight of projectile	HE - 103 lbs.



TYPE 45 24 CM HOWITZER

24 CM HOWITZER TYPE 45 (1912)

This gun was adopted in 1912 and is reported in use by Japanese heavy artillery units. Pictures show it permanently set in a horseshoe-shaped revetted emplacement and in the field with no protection.

Because it must be transported in several loads (allegedly ten) it requires special equipment and a day's time to be set up in firing position. The short-barrel and heavy projectiles (400 pounds) limit its range to 11,000 yards.

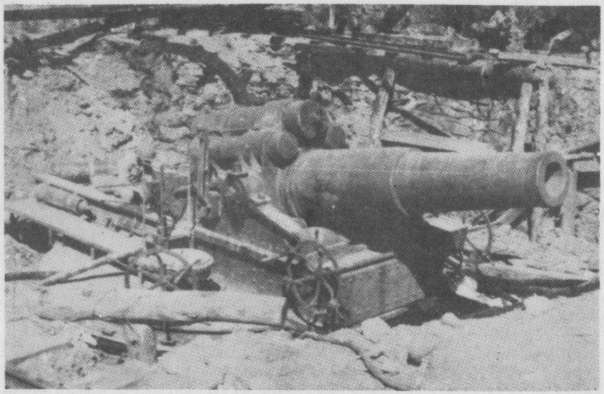
The gun is easily recognized by its unusually short barrel, and circular base. A wheeled ammunition tray is utilized to carry the projectile from the ready position to the chamber. The elevating handwheel is located at the left of the gun, and the traversing handwheel at the right.

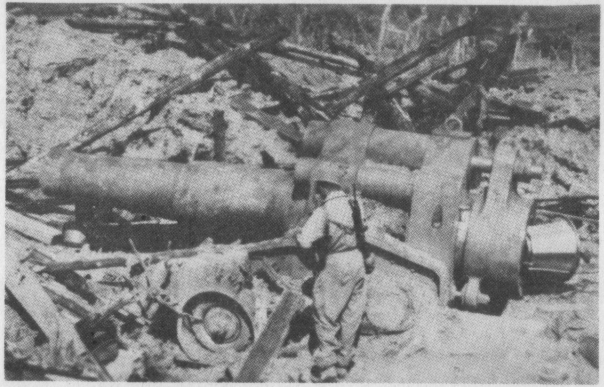
The interrupted screw type breech block is manually operated by a handle on the left.

A 26 caliber, 24 cm howitzer has been reported also.

Characteristics

Caliber	240 mm (9.36 in.)
Weight (firing position)	84,000 lbs. (app.)
Length of barrel (overall)	12 ft.
Length (overall)	21 ft.
Maximum Range	11,300 yds.
Muzzle velocity	1270 ft/sec.
Elevation	65 degrees
Depression	2 degrees
Traverse	360 degrees
Recoil system	Hydro-spring
Ammunition	Semi-fixed (400 lbs.)





7th YEAR TYPE 30 CM .HOWITZER

30 CM HOWITZER 7th YEAR TYPE (1918)

Seventh Year Type 30 cm Howitzers were first encountered in the Philippines. These weapons were found on rectangular steel frame mounts set in concrete.

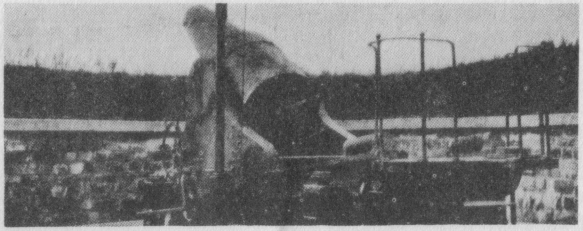
The elevating arc of the piece is mounted on the tube assembly, and an elevating hand wheel is located on each side of the forward end of the carriage. The mount revolves on a concrete platform for a traverse of 360°.

The gun has an interrupted thread type breech block with 8 segments of 20 threads. The built-up type tube has 72 lands and grooves. Mounted on top of the tube are two recoil and one counter-recoil tubes; the piston of the latter is attached to a post on the breech ring.

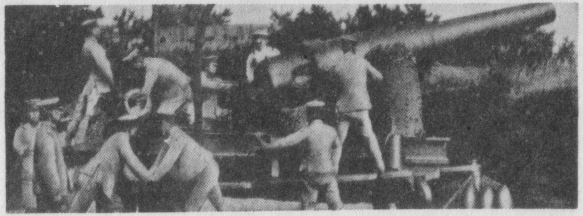
Firing is accomplished by a percussion hammer mechanism operated by a lanyard. In loading, a shell is brought from the magazine on a manually drawn cart to a four wheel tray at the rear of the carriage. The shell is transferred from the tray by a hoist and is rammed home. The propellent charge is then placed in the chamber and the breech block closed manually.

Characteristics

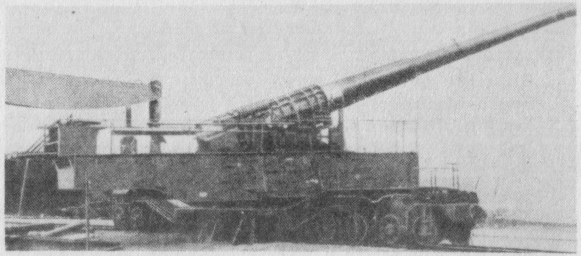
Length (overall)	16 ft. 6 in.
Diameter of breech block	2 ft. 11 in.
Depth of breech block	1 ft. 9 in.
Number of Lands & Grooves	72
Diameter of tube	12 in. (App.)
Maximum elevation	70 degrees
Maximum depression	3 degrees
Traverse	360 degrees
Maximum recoil	420 mm
Maximum range	15,000 yds. (Est.)
Length of carriage base	18 ft. 9 in.
Width of carriage base	4 ft. 8 in.



28 CM HOWITZER



27 CM HOWITZER



24 CM RAILWAY GUN

OTHER HEAVY WEAPONS

The Japanese have several other heavy artillery weapons, some of which were purchased or copied from the Germans or captured from the British and Russians. Among these are 21 cm, 27 cm, 28 cm, and 30 cm howitzers, 24 cm Schneider railway guns, 10 and 12 inch coast defense guns and 41 cm seige guns. They are all used primarily for coastal defense.

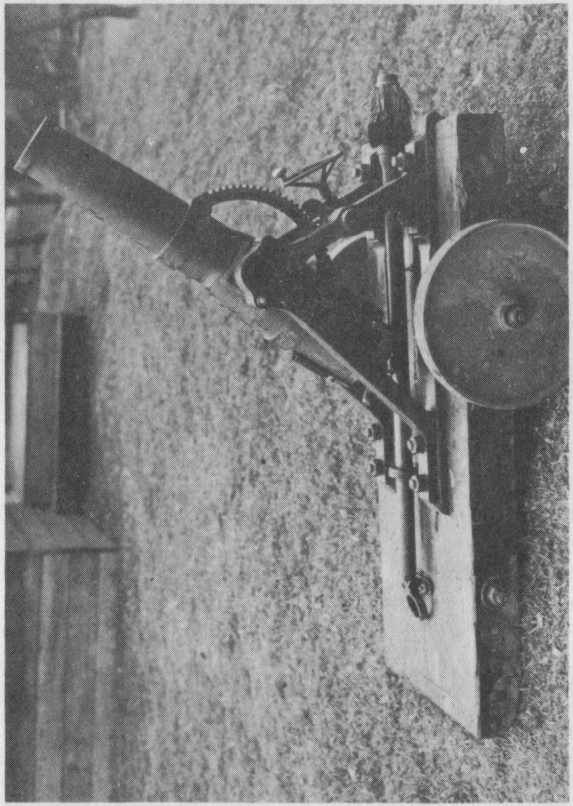
The 21 cm and 27 cm howitzers are each manned by a gun captain and a 13 man crew. Some are set in "Panama" mounts which allow the carriage wheels to run along a circular track set in a concrete platform for a traverse of at least 180 degrees. These weapons have a range of probably over 10,000 yards. A 36 caliber 27 cm gun has been reported, but little is known about it.

The 28 cm howitzers are reported to have a range of about five miles (8600 yards) but this is believed to be a low figure. Projectile weight is 435 pounds. The gun is usually found on a barbette mount set in concrete which allows a traverse of 360 degrees. Overall length of the gun and carriage is about 17 feet.

Two Type 18, 30 cm howitzers have been described. They are probably the counterpart of the U.S. 12 inch mortars M1890. One of the Japs weapons weighs about 21 tons and has a maximum range of 16,600 yards firing an 1100 pound shell at a muzzle velocity of 1140 feet per second. The other Jap howitzer weighs about 15 tons and has a maximum range of 12,750 yards firing an 880 pound HE shell at a muzzle velocity of 1310 ft/sec.

The 41 cm seige guns allegedly weigh about 85 tons and have a maximum range of 21,200 yards.

Schneider 24 cm railway guns have been purchased fairly recently by the Japs. These 51 caliber weapons are reported to have a maximum range of 54,500 yards and a muzzle velocity of 3560 ft/sec. Overall weight is about 35 tons and maximum elevation is 50 degrees.



90 MM BREECH LOADING MORTAR

90 MM BREECH LOADING MORTAR

This 90 mm breech-loading mortar (9.5 calibers) was encountered for the first time on Okinawa. The weapon is mounted on a wooden base and has two disc wheels.

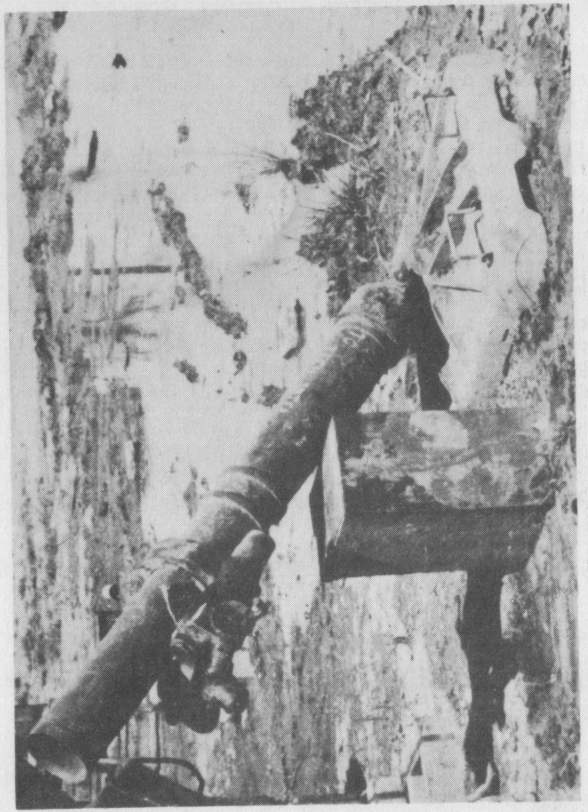
Of the first weapon found, the base was manufactured in 1904 and the barrel in 1914. Ammunition recovered however was manufactured in 1938 indicating that this obsolete weapon was intended for comparatively recent use. It is probably a forerunner to the enemy's effective 90 mm mortars.

The wooden base plate is reinforced with heavy steel straps to which are attached the two trunnions supporting the barrel. The elevating hand wheel is directly below the forward part of the tube. No traversing or recoil mechanisms are present. The breech block is the slotted screw type.

No propellent was found, but it is believed separate loading ammunition is used. The projectiles recovered were equipped with rotating bands which fit into the rifling of the bore.

Characteristics

Caliber	90 mm (3.53 in.)
Length of bore	33 3/8 in.
Rifling	26 grooves
Elevation	70 degrees
Diameter of wheels	15 3/4 in.
Width of wooden base	21 3/4 in.
Thickness of wooden base	3½ in.
Breech block	Slotted screw



TYPE 2 120 MM MORTAR (MINUS BIPOD)

120 MM MORTAR TYPE 2 (1942)

This mortar was encountered for the first time on Leyte, P.I. It is similar in appearance and construction to the Type 97, 15 cm mortar. Principal distinguishing feature is the location of two integral reinforcing hoops about the middle of the barrel.

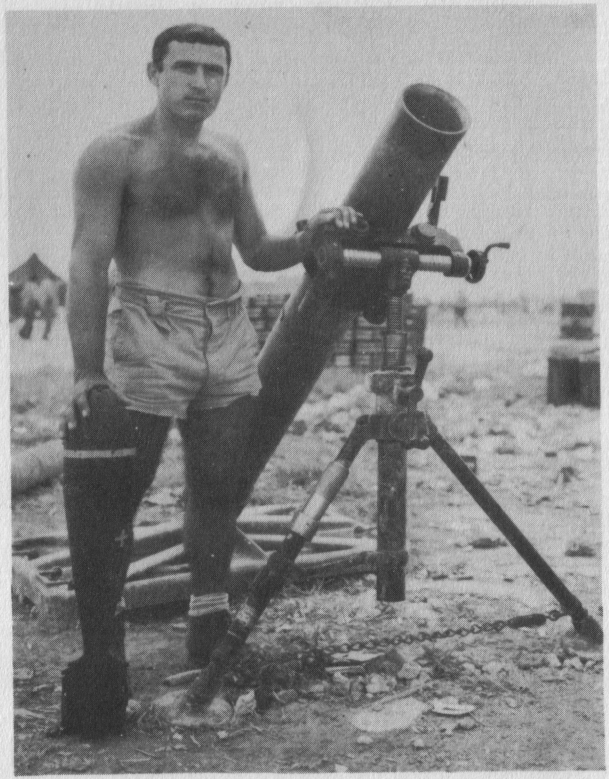
The 120 mm mortar is a conventional smooth bore, muzzle loading type. The firing pin has a safety lock and is cammed. The barrel tapers from the base to the muzzle. The base plate, which is of extremely heavy steel plate joined by welding, has four carrying handles. The clamping collar, saddle and recoil mechanism are of the Stokes-Brandt type, the first two being heavily lined with rubber. The traversing mechanism is equipped with pressure type grease fittings. A level, with cover, is mounted on the yoke.

The maximum range based on that of the 90 mm and 150 mm mortars is estimated to be about 4300 yards.

The projectile fired from this mortar is similar to the Navy Type 3 HE 81 mm mortar shell. It weighs 26½ pounds, contains six pounds of TNT and is 22½ inches long. The Type 100 mortar fuze is used, and the usual army color markings are present.

Characteristics

Length of barrel and cap	63 in.
Length of bore	55 3/8 in.
Maximum diameter of barrel	6 3/8 in.
Minimum diameter of barrel	5 5/8 in.
Size of base plate	27 x 37 in.
Maximum range (est.)	4300 yards



TYPE 97 15 CM MORTAR

15 CM MORTAR TYPE 97 (1937)

Several Japanese medium land based mortars have been reported, but none except the Type 97, 15 cm have been encountered. It is a smooth bore, muzzle loaded mortar similar in design to U. S. and Japanese, Stokes-Brandt Type 81 mm mortars. The Type 97 is used primarily in defense because it is to heavy to be easily moved.

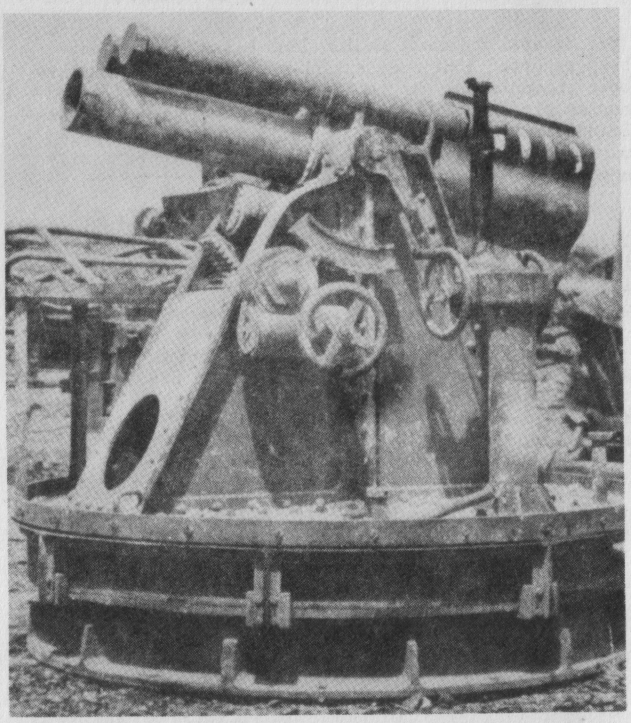
The bipod contains the elevating, traversing, cross leveling, and recoil mechanisms. The elevating mechanism contains concentric elevating screws, thus permitting the mortar to reach maximum elevation without loss of stability.

The traversing hand wheel is located on the left side of the yoke, so that the gunner may use the sight and traverse at the same time. The cross-leveling and recoil mechanisms are identical to those used with the smaller mortars.

The sight used with the 15 cm mortar is the standard collimator or panoramic sight used with standard infantry mortars.

Characteristics

Caliber	150 mm (6 in.)
Length of bore	5 ft. 4 in.
Weight of tube	257 lbs.
Weight of bipod	100 lbs.
Weight of baseplate	337 lbs.
Maximum Range	4650 yds.
Minimum Range	480 yds.
Elevation	45-85 degrees
Firing Mechanism	Retractable firing pin
Bursting radius	21.5 yds.
Ammunition	H.E. (56½ lbs.)



15 CM SHIPBOARD MORTAR

15 CM SHIPBOARD MORTAR

Shipboard mortars were first recovered in the Manila dock area. They are probably manned by artillery shipping units which ordinarily operate the guns on transports and freighters.

The Type 2 Ship Mounted 15 cm Medium Mortar is a smooth bore, muzzle loading weapon. It is mounted on a barbette type carriage which has a traverse of 360 degrees. The tube is mounted on a cylindrical cradle and the outer surface of the barrel forms the bearing surface in recoil. The recoil system is the hydro-pneumatic type. The recoil cylinder is located at the bottom and the recuperators at the top of the tube. The piston rods are attached to the breech cap.

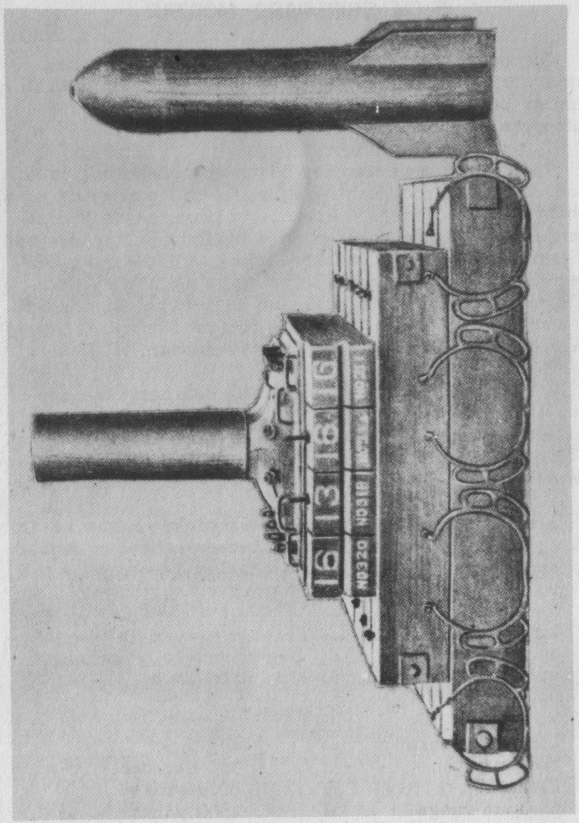
A recoil shield to the left of the carriage protects the traversing hand wheel operator. Elevation is also set on the left side of the piece. Three steps on the right side of the carriage lead to the loading platform and a tubular steel railing protects the loader.

A telescopic sight was used on older models of this mortar, but newer models are believed to have a double ring open sight. The firing mechanism is probably the lanyard operated, percussion hammer type.

Ammunition prescribed for this weapon is the teardrop type HE shell weighing approximately 60 pounds. Maximum range firing charge 6 is 4500 yards.

Characteristics

Length of bore	49½ in.
Traverse	360 degrees
Elevation	80 degrees
Maximum range	4500 yards



32 CM SPIGOT MORTAR

32 CM SPIGOT MORTAR

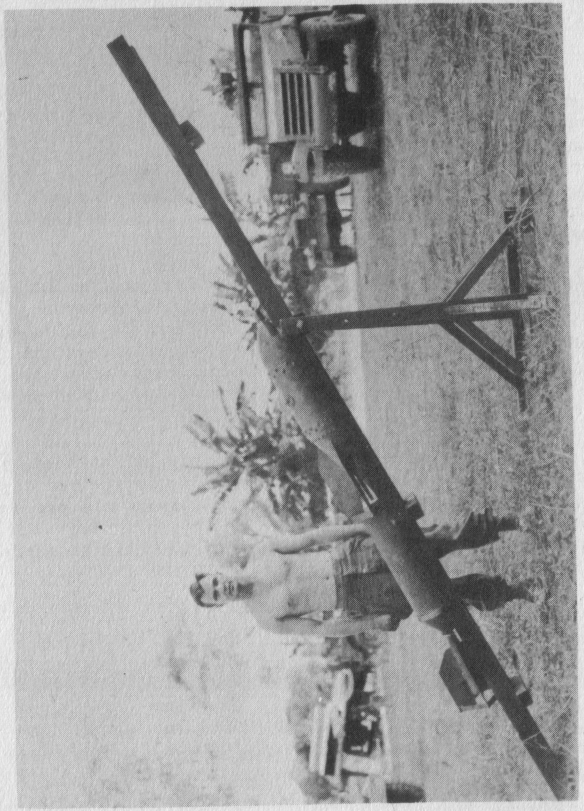
The 32 cm Spigot Mortar (also referred to as a 25 cm spigot mortar) is a crude and unusual weapon designed by the Japanese for use in defensive situations. Because of the great weight of the projectile, range is limited. The mortar itself consists of a steel cylinder with a cavity machined in its upper end, a small steel seating plate, a steel mounting plate, a steel base plate, and three layers of wooden beams bolted together.

These weapons were first encountered on the Imphal Plains in India and were used against our forces on Iwo Jima and Okinawa. They were found on the latter emplaced in concrete emplacements and set at a constant angle of about 45 degrees. The wooden bases were more or less permanently emplaced and thus the field of fire was restricted to about 150 mils.

Minor adjustments in deflection may be obtained by loosening the base plate bolts and shifting the spigot on its mount; range is controlled by varying the propelling charge. The weapon is fired by an igniter which screws into an orifice in the side of the tail assembly on the projectile.

Characteristics

Weight (less wooden base)	649 lbs.
Weight of wooden base	215 lbs.
Weight of spigot	225 lbs.
Length of spigot	31.7 in.
Outside diameter of spigot	10.1 in.
Weight of projectile	674 lbs.
Length of projectile	5 ft. (app.)
Diameter of projectile	320 mm
Maximum Range	2,000 yds. (App.)
Traverse	150 mils



63 KG ROCKET-PROPELLED BOMB

63 KG ROCKET-PROPELLED BOMB

The 63 kg rocket propelled bomb is composed of a Navy 63 kg (139.6 lbs.) No. 6 Type 97 aerial bomb propelled by a Type 1 or Type 3 rocket motor and is launched from a wooden or metal trough launcher.

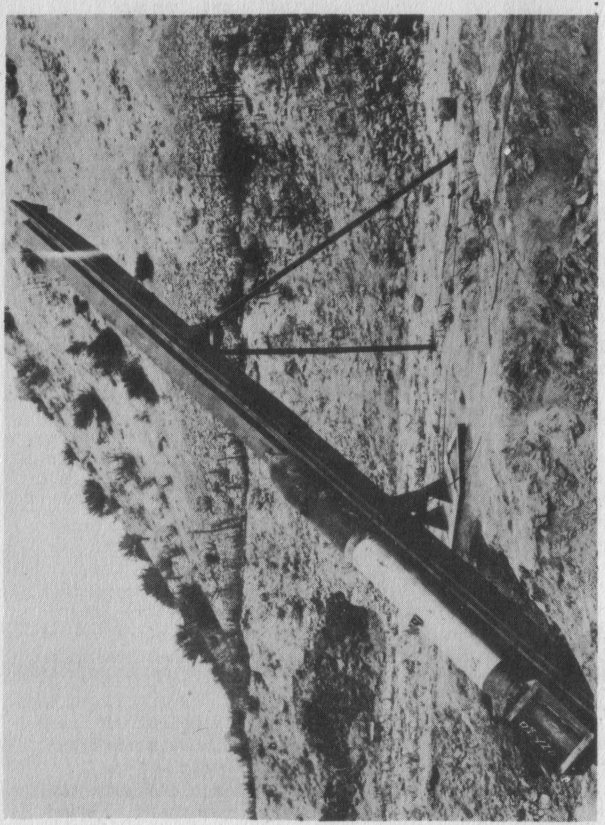
The 63 kg bomb is 42½ inches long, about 9 inches in diameter, and contains 32 kg (70½ lbs.) of picric acid or other explosive. It is colored grey overall with a green band around the nose and tail struts. The fuze used is either the A-3(a) or A-3(b) instantaneous nose fuze.

The Type 1 rocket motor is 33½ inches long and contains 12½ pounds of propellent. The Type 3 is 40 5/8 inches long, weighs 92 pounds, and contains 24¼ pounds of propellent.

Both types of rocket motors are about 7 inches in diameter and are colored grey overall with a red band near the base. Each consists of a cylindrical steel body, venturi tube and tail fins. A wooden disc is used with the Type 3 to maintain stable contact between the bomb and rocket motor.

Ignition is initiated by a hand generator which furnishes an electric current. Wires lead from the generator to a small bag of black powder in the rocket motor, which, when fired by a spark, ignites the main grains of propellent powder.

The rocket motor falls away at the height of the missle's trajectory and the bomb continues toward the target. Maximum range of the bomb with the Type 1 rocket motor is approximately 1200 yards and with the Type 3 motor about 2000 yards. Two launchers, 13 and 15 feet long have been recovered.



250 KG ROCKET-PROPELLED BOMB

250 KG ROCKET-PROPELLED BOMB

This large rocket was first encountered on Iwo Jima. It consists of a Type 98 No. 25 ordinary bomb or a Type 99 No. 25 land bomb less tail assembly attached to a rocket motor.

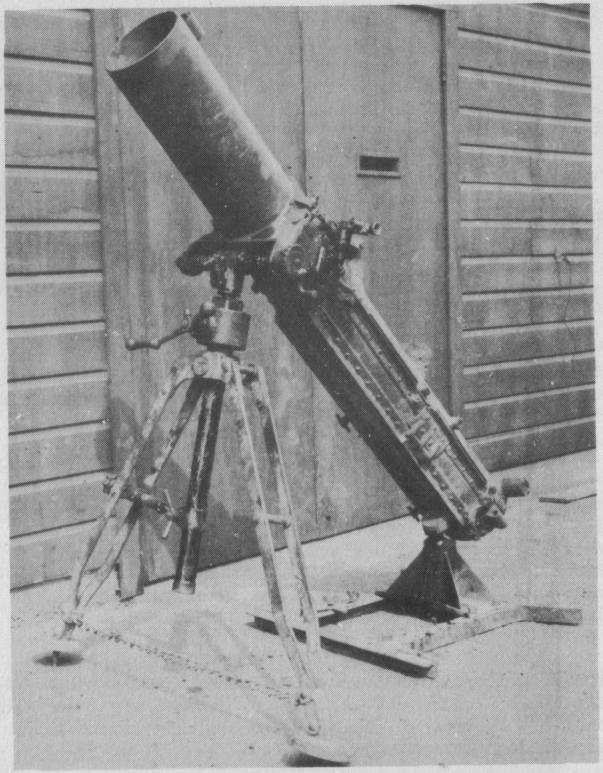
The 250 kg (550 lb.) bombs are grey in color and contain about 212 pounds of explosive. The bomb bodies are 46 inches long and 12 inches in diameter. They take the A-3 series of instantaneous fuzes.

The rocket motor is 78 inches long and reportedly contains 178 pounds of propellent (smokeless powder). It consists of an adapter, cylindrical main body, venturi tube and tail assembly. A hand generator provides the spark which ignites the black powder primer and in turn the main propellent charge. A length of wire leads from the generator to the rocket motor.

The trough type launcher used to launch these projectiles is 22 feet long. It is usually set up on a terrace about 5 feet high. If set on level ground, a pit must be dug to accomodate the lower end of the trough. The base plate and bipod legs are set on the higher ground. Elevation and depression may be accomplished by manipulating the bipod and lower end of the launcher.

Maximum range is claimed to be 10,000 yards and the rocket has been observed to travel 7500 yards. Although the trajectory and angle of impact are lower than that of the average rocket, fragmentation is excellent and blast effect is great.

With an experienced crew and all projectiles assembled the maximum rate of fire is estimated to be about four rounds per hour.



TYPE 4 MORTAR TYPE ROCKET LAUNCHER

MORTAR TYPE ROCKET LAUNCHER TYPE 4 (1944)

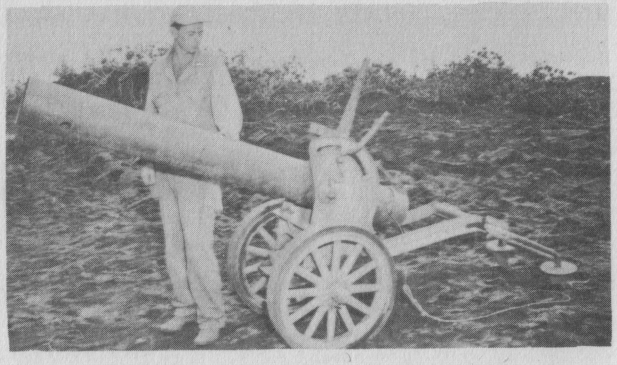
This weapon is the Japs' most efficient rocket launcher encountered to date. It resembles a large trench mortar. Elevating and traversing devices are conventional mortar types, and buttress type screws afford great stability in laying the weapon. The traversing handle and a bracket for a collimator sight are on the right side of the tube. Elevation is accomplished by means of a handle in front

The 76 inch tube is composed of two sections of machined steel. The lower section is split and its top is hinged, allowing the rocket to be placed in the breech of the launcher. Two clamps secured on each side lock the breech. A lanyard 23½ feet long attached to a 2-foot section of small steel cable is used to fire the weapon. The cable is attached to a pull igniter in the rocket.

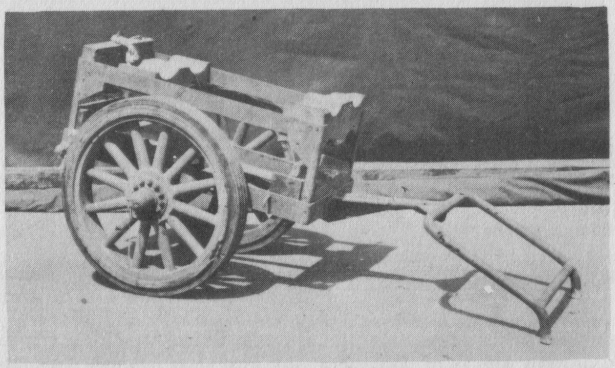
The base plate is 15 inches long, 8 inches wide, with a raised reinforced socket 8 inches high. Two spades are driven through the front corners to hold it in place.

A Japanese rocket gun battalion of 850 men has three companies each equipped with 12 of these Type 4 rocket launchers. A crew of ten presumably operates each launcher.

An Army type as well as the Navy type 20 cm spin stabilized rocket is fired from this launcher. The Army rocket is 38 3/4 inches long, weighs about 180 pounds and contains 40 pounds of TNT. It is colored black overall with a yellow band near the junction between the explosive head and rocket motor. Results of firing tests with this Army type 20 cm rocket in the Type 4 launcher show a maximum range of about 3250 yards.



MOBILE TYPE ROCKET LAUNCHER



ROCKET AMMUNITION CART

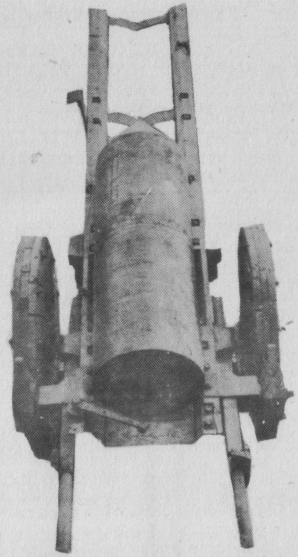
MOBILE TYPE ROCKET LAUNCHER

The first mobile type rocket launcher was found on Iwo Jima. It has a stovepipe-like barrel about 6½ feet long and 8 inches in diameter mounted on a steel carriage and is equipped with a double trail with two spades. The two wheels with wooden spokes and hard rubber tires make it easy to move about.

Elevation and depression are accomplished by an elevating handle located at the left of the barrel just forward of the trunnions. When the desired angle is reached, the clamping handle at the left is rotated to hold the tube in place. The maximum elevation is 73 degrees; there is no traverse. A plunger, provided at the bottom of the breech end of the barrel, is cammed down when a rocket shell is loaded and rises at the rear of the rocket to hold it in place ready for firing. A percussion type firing mechanism is pivoted on top of the breech and is fired by a pull on the small lanyard cable.

The Navy Type 8 inch rocket is fired from this launcher. This spin-stabilized rocket was first encountered on Peleliu where it was fired from trough-type launchers. It consists of an 8 inch naval shell cut off forward of the rotating band and threaded to receive a base plate and rocket motor. Bourrelets on the front and rear of the motor body guide it in its propulsion from the barrel of the launcher. The complete round including motor is 43 inches long and contains 40 pounds of trinitroanisole. Overall weight, less propellent is 195 pounds. Color is maroon.

Maximum range of this rocket in the mobile launcher is over 2000 yards. With the Type 4 launcher it is over 3000 yards.



45 CM ROCKET LAUNCHER

45 CM ROCKET

45 CM ROCKET LAUNCHER

These large naval type spin stabilized rockets were first captured on Luzon. The crude launcher used and general inacuracy of the rocket indicate that it is intended primarily for area bombardment. Maximum range is 2150 yards.

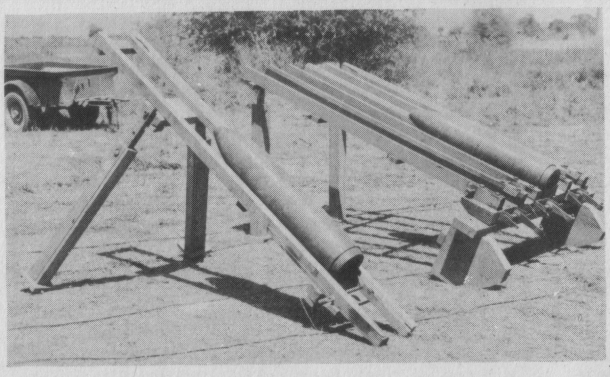
The rocket is 447 mm (17 5/8 in.) in diameter, 67½ inches long and contains approximately 400 pounds of Type 98 explosive (TNA and HND). Overall weight is 1514 pounds. It is made up of two main parts separated by a base plate: explosive head and rocket motor.

The explosive head is 40½ inches long and weighs 443½ pounds without explosive filling. It is cylindrical in shape, has a conical nose and is constructed of 3/4 inch rolled sheet steel. The fuze pocket will receive the Navy instantaneous nose fuze used with 8" rockets, but rounds recovered have been fitted with adapters to take Army Type 88 artillery fuzes or Type 93 and Type 100 instantaneous-short delay mortar fuzes.

The rocket motor is 27 inches long. Its wall is also made of 3/4 inch steel. It contains 40 monoperforated sticks of propellent weighing a total of 131½ pounds. The igniting charge is about three ounces of black powder. Six nozzles set at an angle of 18½ degrees provide vents for excaping gases and causes the rocket to be spin stabilized.

The only launcher encountered consists of a wooden trough supported by an axle between two rough, solid wooden wheels. The base of the rocket rests against a steel bar near the lower end of the trough. A lanyard-operated, percussion striker is mounted on a pivot on the left side. There is also a simple elevation scale giving readings up to 60 degrees.

CRUDE TROUGH LAUNCHER (20 CM)



SINGLE AND MULTIPLE TROUGH LAUNCHER (20 CM)

OTHER ROCKETS AND LAUNCHERS

A 68 mm rocket has been encountered, and although the launcher is a substantial device, the rocket contains no high explosive, is not spin stabilized, and may be only a line throwing device. The rocket is 10½ in. long and about 2 2/3 inches in diameter. It is filled with propellent and colored black. On the launcher, elevation is controlled by a hand wheel on the right of the carriage. Traverse is accomplished by a hand wheel at the top of the tripod.

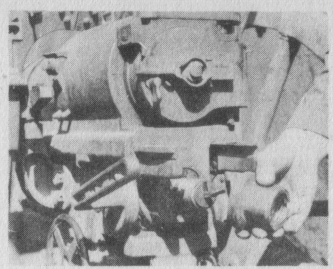
Various types of launchers for the Naval Type 20 cm spin stabilized rocket have been encountered. Early models consisted of crude troughs about seven or eight feet long with small baseplates and bipods. They had plumb bobs or similar devices and rough elevation scales to set the desired QE.

Besides single trough launchers, dual and triple devices have been encountered. These operate in the same manner and have lanyard operated, percussion hammer firing mechanisms.

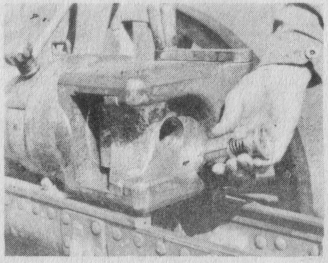
The Japs are reported to have 24 cm rockets which are similar to the Navy Type 20 cm rockets, and a multiple launcher that launches 64, 12 cm rockets has been described.

Suicide boats equipped with rocket launchers and 12 cm rockets have been captured. Some of the launchers are set at a standard angle, and others have adjustable elevating devices. They have percussion hammer lanyard firing mechanisms. The rocket employed is about 5 in. in diameter, 29 in. long, weighs 49½lbs., and is colored black overall with a yellow band near the nose. No impact fuze is used. When the powder train delay fuze, which is ignited by the burning propellent, burns through it detonates 3/4 pounds of Type 98 explosive bursting the warhead and scattering 62 incendiary pellets. Range is estimated to be 2000 yards.

RECOIL CYLINDER COUPLER NUTS OF TYPE 94 75 MM MTN. GUN



REMOVING RECOIL CYLINDER COUPLER NUT FROM TYPE 41 75MM MTN. GUN



REMOVING FIRING MECHANISM FROM TYPE 94 75 MM MTN GUN

SILENCING ARTILLERY WEAPONS

All artillery weapons, including Japanese, can be put out of action by one or two of several ways. Below are listed some of the methods used to neutralize an enemy weapon.

A demolition or satchel charge placed anywhere in the barrel and detonated will put it out of action permanently, as will a "Thermite" grenade which melts into the steel tube making it unusable. However a white phosphorus or "WP" grenade will not. An ordinary fragmentation hand grenade is recommended only when no other explosive is available.

The recoil system, if exposed, is particularly vulnerable. Using a hammer or axe, dent the cover or the protruding gas pistons. Simply chopping the muzzle with an axe so as to upset the lands will definitely ruin the guns accuracy.

Another method which may be used if an armed round and a long lanyard are available, is to plug the muzzle with mud or other material and fire the weapon from behind cover.

It is highly probable that the Japs inspect their weapons before firing as we do, and any method involving the taking off of obvious parts for which replacements are handy in a spare parts kit is of little avail. However if extra parts are not readily on hand, the gun may be put out of action temporarily. Removal of recoil cylinder retaining nuts from their weapons temporarily places a gun out of action. If the gun crew does not notice their absence before firing it will be most effective. Another temporary expedient is to remove the firing mechanism from the breech block.

JAPANESE ARTILLERY WEAPONS. RESTRICTED.
CINCPAC-CINCPOA BULLETIN 152-45. 1 JULY 1945.

UNITED STATES PACIFIC FLEET
AND PACIFIC OCEAN AREAS
HEADQUARTERS OF THE COMMANDER IN CHIEF

MCH/as

RESTRICTED

16 July 1945 - Serial DIS-161455.

From: Commander in Chief, U. S. Pacific Fleet and Pacific Ocean Areas.
To: Distribution List.

Subject: Japanese Artillery Weapons,
(CINCPAC-CINCPOA Bulletin No. 152-45.)

Enclosure: (A) Subject Bulletin.

1. Subject Bulletin, the second edition, supersedes CINCPAC-CINCPOA Bulletin No. 26-45. Additional copies are available upon request from Joint Intelligence Center, Pacific Ocean Areas.

2. Enclosure (A), forwarded herewith, need not be reported and when no longer of value should be destroyed. No report of destruction is necessary.

M. LEGENDRE,
By direction.

DISTRIBUTION LIST

Copies	ARMY
5	ComdtCom&GenStaffSch Ft Leavenworth Kan
50	ComGenAAASch Ft Bliss Tex
50	ComdtCASch Ft Monroe Va
50	ComdtFASch Ft Sill Okla
5	ComGenArmoredCenter Ft Knox Ky
5	CO OrdBDCAberdeenProvingGround Aberdeen Md
100	ComGenUSAFCTO APO 879 NY
20	ComGenNZAHq Wellington NZ
100 ea	ComGen APO 7 27 77 81 96 98
60	CO 4thArmdGrp APO 957
100	ComGenTEN APO 357
5	ComGenTAFTEN APO 357
200	ComGenWESPACBACOM APO 244
100	ComGenCENPACBACOM APO 956
5	CO CENPACBACOMMineSch APO 957
100	ComGenCombatTraCom APO 957
20	ComGenICorps APO 301
20	ComGenIXCorps APO 309
20	ComGenXCorps APO 310
20	ComGenXICorps APO 471
20	ComGenXIVCorps APO 453
20	ComGenXXIVCorps APO 235
20	ComGenXXIVCorpsArty APO 235
20	ComGen2273rdAAAC(HAW) APO 958
20	CO 2274thSAC(HAW) APO 956
20	ComGenSOPACBACOM APO 502
20 ea	ArmyIsCom
20	CinCAFPac APO 500
20	ComGenFEAF APO 925 Incl: 5thAF APO 710 13thAF APO 719
5	ComGen7thAF APO 331
10	ComGen14thAAComRearEch APO 322
10	ComGen14thAAComFwdEch APO 500
20	GS(Int)AdvLHQ(Aust) APO 925
500	ComGenSIX APO 442
200	ComGenEIGHT APO 343
5	CinCGHQSWPA APO 500
20	DirNEFIS APO 500
20	DirADVANEFIS APO 926

Copies	NAVY
2	CO USNSch(AI) NYC
5	CNAOpTra Jacksonville Fla
65	ComAirLant For: ACI
10	ComPhibTraPac FPO San Diego Calif
5	USNBDS AmU Wash DC
50	CO MEIU#1
50	OinCMEIU#4
45	CO SEFIC
5	OinCSEFICU#5 Navy 3002
5	OinCAICCINCPOAAdvHq
5	OinCAICNorPac
100	OinCJDU Navy 943
100	OinCJDU Navy 3011
100	OinCJICPOA ACIDU USS COHASSET (IX-198)
100	OinCJICPOA ACIDU Navy 3237
25	OinCAIDA NABs Navy 3256
1	OinCAIDA IsCom Navy 3150
20 ea	NavyIsCom Navy 3245 3247
20 ea	ComNavBase 3150 3252
20 ea	ComdtNOB
20	ComPhilSeaFron
20	ComAlaSeaFron

Copies	MARINE CORPS
100	ComGenFMFPac
10	ComdtMarCorps
200	ComGenIIIPhibCorps
200	ComGenVPhibCorps
50	ComdtMarCorpsSchsMarBar Quantico Va
750 ea	ComGenMarDiv
200	ComGenTraComFMF LeJeune NC
25	ComGenTraComFMF Pendleton Calif
5 ea	CO DefenseBn
5 ea	MarIsCom